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The Battle of Plymouth Hoe

By

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Abstract

This thesis explores an event which the author has named “The Battle of Plymouth Hoe”, a public intellectual duel which took place in 1864 between a committee from Devonport Mechanics’ Institute and a wandering lecturer who propounded a biblical literalism and pseudoscientific belief in a flat earth. The thesis maps the social and cultural context of this duel, together with tracing of the respective paths of the protagonists which led to their encounter, in order to reveal new truths about mid nineteenth century popular culture and society. Through close analysis of primary sources and utilisation of appropriate secondary material, the thesis engages with current debates in the relevant historiography and draws conclusions which are grounded in recognised historical research methodology.

The thesis engages with the material using a microhistorical approach, a proven methodology which has borne demonstrable fruit when applied to a limited range of primary sources relating to specific individuals or small scale events. Throughout, an awareness of postmodern interpretations of the sources is maintained.

Although the thesis is a local study, it reveals broader truths. The place of Devonport Mechanics’ Institute in the broader context of the Mechanics’ Institute movement is considered and shown to be atypical. The nature of inter-confessional relations in the wider Plymouth area is explored. Geographical differences in the reception of pseudoscientific theories are revealed and explained. The role of informal news syndication in creating popular fame and infamy is examined and the nature of popular engagement with publicly exhibited science is discussed. Ultimately, the identities of the true winners of the Battle of Plymouth Hoe are revealed.

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Author's Declaration

At no time during the registration for the degree of Master of Research has the author been registered for any other University award without prior agreement of the Faculty Graduate Committee.

I certify that the work in this thesis is wholly my own except where acknowledgement of other sources is clearly made.

In preparing this thesis, a programme of advanced study was undertaken, which included a postgraduate course on research in the arts & humanities and a subject-specific research module entitled Key Debates and Research Methods in History

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Chapter One

At high noon on October 24th 1864, one of the most unusual demonstrations in the history of science took place on Plymouth Hoe. This was not so much a demonstration, more of an intellectual duel - fought in public between a committee of self-educated working men from Devonport Mechanics' Institute and a wandering lecturer with some very peculiar theories indeed. The lecturer, a chap who called himself "Parallax", held the unshakable belief - borne of fervent religious fundamentalism - that the earth had been created in only seven days and was, more to the point, flat.

Self-educated working people in Plymouth, the home of the famed Royal Navy, raised against an intellectual backdrop boasting such luminaries as Isaac Newton, could not bear to see such dangerous nonsense being promoted in their city. The fact that Parallax appeared to be winning converts to his pseudoscientific creed made matters all the more pressing, and a challenge was issued and accepted; the place would be Plymouth Hoe and the stakes would be the public perception of the shape of the very earth itself.

Parallax was used to playing to crowds. He had won plaudits for his debating skills and for the eloquence with which he advanced his arguments. He had even managed to plant seeds of doubt in the minds of newspaper editors and columnists as to the truth and reliability of the Newtonian system. He claimed to draw upon a vast body of self-conducted experimental research and observation conducted according to seemingly rigorous scientific principles, and he used the language of his Newtonian opponents to illustrate and support his own arguments while at the same time demolishing theirs. He had the skills of a master showman when it came to reading the mood of an audience and manipulating it; in debates, he always played to his own strengths, was seldom stuck for a detailed and well thought out response to awkward questioning and, if all else failed, he could – and occasionally did – simply turn out the lights and walk out of the debating chamber. This last tactic infuriated his intellectual opponents no end. There were even reports of him being physically attacked at or after his lectures. We shall follow Parallax's journey across the land, and the development of his ideas and his ability to present them, in a later chapter.

Parallax had made a habit of outfoxing his Newtonian opponents in debate, and in a naval city like Plymouth those opponents included many sailors – both military and commercial – who, although able to give first hand testimony of the rotundity of the earth, were quite unable to translate this practical knowledge into a theoretical argument cogent or convincing enough to demolish that of their erstwhile rival. A challenge was therefore made to, and accepted by, Parallax to demonstrate the reality of his theory in public, as part of an ongoing dialogue conducted via the letters pages of local newspapers. Perhaps his opponents believed that he would prove an easier intellectual target out in the open, in front of an audience, in the cold light of day. As we shall see, it did not quite turn out that way.

There was some doubt as to whether the wandering lecturer would actually turn up on the day – as has been already noted, he had the rather ungentlemanly habit of slipping away from awkward situations and difficult questions. True to his word, however, he appeared in the appointed place at the agreed time. With one telescope sited on the Hoe itself, and another situated on the beach – both trained on the Eddystone Lighthouse – the intellectual battle was joined.

According to the theory propounded by Parallax, which he had dubbed “Zetetic Astronomy”, the world was as flat as it appeared to be to the naked eye, therefore the entire height of the lighthouse would be visible through both telescopes on such a calm, clear day. His Newtonian opponents, however, denounced this belief as idiocy – although the entire lighthouse would naturally be visible through the telescope in the elevated position, when it came to observations made from the beach only the lantern atop the structure would be visible in its entirety. As the arrangements for the demonstration had been made in the public arena of newspaper letters pages, a substantial crowd had gathered on the Hoe to witness the proceedings. They waited patiently as the required observations were made and the measurements taken.

It may have been something to do with the air quality that morning – an onlooker who later achieved prominence as an astronomer, one Richard Proctor, certainly thought so – but the result was a better than expected one for the Newtonian round-earth theory: only half of the lighthouse’s lantern could be seen from the beach. It appeared that the observations completely demolished the

views held by Parallax in the most public and final way.¹ Surely now the people of Plymouth would recognise this unscientific tomfoolery for what it was? Incredibly, however, Parallax seized the initiative. With an ability to think on his feet and turn contrary evidence into corroboration finely honed on the lecture circuit, he turned the argument around once more. The observations, he argued, were not exactly what the Newtonian theory had predicted. This therefore proved that the round-earth view of the world was deeply flawed and that the “Zetetic” theory was, by default, correct. His attempt to snatch victory from the jaws of defeat certainly made an impression – Proctor notes with some regret that “... many of the Plymouth folk went away from the Hoe that morning... with the feeling... ‘some of the most important conclusions of modern astronomy had been seriously invalidated’”.² The debate continued to rage after the event, as Parallax remained in the area, now repeating his claims of victory in the demonstration, while newspapers continued to print broadsides penned by either side of the argument. In the grand scheme of things, however, the furore died down, Parallax moved on and he referred to the demonstration in his later writings, obscure as they were. The events of October 24th 1864 became a footnote in the history of popular adult self-education in the Plymouth area, and one that was all but forgotten.

This thesis shall return these events to our collective memory of the past, using the words left behind by those who took part in such unusual and dramatic proceedings. We shall use a microhistorical approach, using the case study of Parallax, his lectures and the public demonstration in order to introduce and then contextualise the intellectual world of the self-educated working-class adult in Plymouth, and in doing so answer some key questions and gain some illuminating insights into the broader sphere of public and private life in the mid nineteenth century, popular engagement with science, organised resistance to pseudoscientific ideas and more finely focussed additions to the wider corpus of historical knowledge relevant to the locality of the case study – the nature of adult education and self-education in the Plymouth and Devonport areas during the period in question, sectarian tensions and the language of the popular religious debate and the transmission of, and engagement with, scientific knowledge in relation to Cornwall. The microhistorical method being used is an admittedly unorthodox one in the context of a Master of Research degree thesis, nevertheless it is a valid one and, given the nature of the questions suggested and the sources utilised, it is a logical one. Reay sums up the value of this approach eloquently, stating that the “advantage of placing a small community under the microscope is that it becomes possible to see and explore the complexity of social interaction and social and economic

¹ R. Proctor, *Myths and Marvels of Astronomy*, (Chatto and Winduss, 1878), pp. 277-285.

² Proctor, *Myths and Marvels*, p. 283.

processes.”³ The small-scale, local and narrow becomes a lens to explore the larger-scale, broad and wide. Examples of the microhistorical approach in action testify to its value in unlocking the secrets of the past and increasing our knowledge of history when applied to a localised case study, often using a relatively small sample of primary source material. Ladurie’s work on thirteenth and fourteenth century heresy in the Pyrenean village of Montaillou⁴, for instance, uses a single collection of primary source material – Fournier’s Inquisition register – to explore rural culture and society of the period, using one village as the starting point for an exploration and exposition of medieval life. Davis, meanwhile, writing on the later social and cultural history of the same general geographical area uses the transcripts of court proceedings, contemporary manuscripts and printed ephemera to explore the wider by means of focussing on the narrow – the return of the eponymous Martin Guerre is used to explore broader issues of family, relationships and identity.⁵ Microhistory, however, is not limited to the comings and goings of late medieval and early modern French peasantry. Duffy uses what is effectively a single primary source – the parish accounts of a small rural North Devon church – as the basis for his reconstruction of village life in Reformation era England⁶, which goes beyond this limited scope to illustrate the nature of first regional opposition to, then acceptance of, church reform during the period in question. The microhistorical approach, in Duffy’s case, impressed the panels of the Hawthorden, Samuel Johnson and British Academy book prizes enough for the latter two to shortlist his work and for the other to declare it the winner.⁷ More to the point where this thesis is concerned, he proves the value of analysis of the single primary source mentioned to produce a semi-narrative study which contributes to the general understanding of rural life in the Reformation period. Levenson, meanwhile, uses a narrow selection of letters and depositions of Isaac Newton for the starting point of his microhistory of one event in the great scientist’s life, the struggle between Newton and a notorious counterfeiter,⁸ to explore not only this incident but wider questions of science, economics, reputation and law, while framing everything against a vibrant background of an early eighteenth century London brought to life. Microhistory therefore has a proven pedigree in relation to the use of a small sample of primary sources concerning specific individuals and localities to explore wider issues and to discover new historical truths against the background of specific questions.

³ B. Reay, *Microhistories: Demography, Society and Culture in Rural England, 1800-1930*, (Cambridge University Press, 2002), p.

⁴ E.L.R. Ladurie, *Montaillou: Cathars and Catholics in a French Village, 1294-1324*, trans. B. Bray, (Penguin Books, 1990), passim.

⁵ N.Z. Davis, *The Return of Martin Guerre*, (Harvard University Press, 1983), passim.

⁶ E. Duffy, *The Voices of Morebath: Reformation & Rebellion in an English Village*, (Yale University Press Paperback, 2003), passim.

⁷ Duffy, *Morebath*, back endpaper.

⁸ T. Levenson, *Newton and the Counterfeiter: The Unknown Detective Career of the World’s Greatest Scientist*, (Faber & Faber, 2009), passim.

Using the microhistorical approach, this thesis will apply analytical methodology to a limited range of sources in order to enhance and expand our collective understanding of mid nineteenth century social and cultural history in order to answer some key questions. These questions are firstly, why did the ideas propounded by Parallax about the shape of the earth, and his lectures in Plymouth in 1864, generate such a hostile reaction from members of local adult self-education organisations, such as Mechanics' Institutes? Secondly, what does the language of the arguments as conducted in letters pages in local newspapers tell us about the attitudes of the participants? What does the language of newspaper editorials and letters from interested – though not directly involved – readers tell us about wider attitudes to the debate? Using influences from literary theory and from philosophical ideas such as postmodernism as tools to examine the texts, can we determine if there are limits to the usefulness of such letters and editorials when we utilise them to reconstruct past events and attitudes? Thirdly, were there any individuals or groups who may have been predisposed to agreeing with – or at least finding some degree of common cause with – the arguments of Parallax? Finally, and more broadly, what does the study of the Battle of Plymouth Hoe tell us about mid nineteenth century culture and society in general?

By answering these questions, we shall be granted access to the intellectual world of the self-educated working people of Plymouth in the mid-1860s, at a time when the British Empire was at its height and when the Royal Navy which proudly called the city its home truly ruled the waves. We shall see how an intellectual tradition, inherited from such leading scientific lights as Newton, came to be passed to working people and we shall see how those self-same working people sought to defend that logical, rational tradition against an attack from outside the perceived boundaries of scientific rigour and respectability.

This thesis shall, by exploring these questions and analysing these events and sources, take its place amongst the growing corpus of literature on mid-nineteenth century social history and the evolution of the study of the field. As the general field of historiography has changed with time, so the study of this specific period has also. From the political narratives of the past, through the merging of social theory with historical method, to the advent of the postmodernist approach, from the large scale macrohistorical narratives of our predecessors, through the sweeping class-centric work of the

Marxist historians to the focus on the individual we increasingly see today⁹ – as history is being created all around us, so the study of that history has changed shape, has evolved, has absorbed influences and faced down existential threats and grown to become the brave, bold, inquisitive, flexible and dynamic discipline it is today. This is as true of the mid-nineteenth century as it is of any other period. From Thompson's blanket view of class¹⁰ to Jones' more detailed treatment of the subject¹¹, through increasing degrees of the growing interest in the history of the period as seen through the experiences of individuals living in a vibrant society and a rich culture¹² - the study of mid nineteenth century British society has changed emphasis, and this microhistorical thesis finds itself part of this rich and diverse field of study as result.

As the Mechanics' Institutes movement is key to this thesis, providing as it does the backdrop to the microhistory being presented, a brief history of this cultural phenomenon is now necessary, preceded by a summation of the socio-economic background to their emergence. In their history, we will find much that is relevant to our study, and is instructive of working class life in Devonport in the early-and-mid nineteenth century. The following brief history will then turn to the history of the Mechanics' Institute in Devonport, covering the period from inception to 1864.

England of the early nineteenth century was coming to the end of what the scholar John Rule terms 'the vital century', a period when the population doubled and where the era of the plough gave way to the beginnings of the Industrial Age in less than 100 years.¹³ The industrial sector's labour force, a key index of the development of practical workplace technology in the wider English economy, grew at an average rate of 1.36% per annum between 1759-1801 – by comparison the agricultural economy grew at a far slower 0.06% per annum on average during the same period¹⁴. There was also a growing urbanisation of English society, with the proportion of the overall population living in towns and cities with greater than 10,000 inhabitants almost doubling in the hundred year period

⁹ D. Cannadine (ed.), *What is History Now?*, (Palgrave MacMillan Paperbacks, 2004), passim; J. Tosh, *The Pursuit of History (Revised Third Edition)*, (Longman, 2002), passim.

¹⁰ E.P. Thompson, *The Making of the English Working Class*, (Vintage Books, 1968), passim.

¹¹ G.S. Jones, *Languages of Class; Studies in English Working Class History, 1832-1982*, (Cambridge University Press, 1983), passim.

¹² J. Burnett, *Useful Toil, Autobiographies of Working People from the 1820s to the 1920s*, (Penguin Books, 1984), passim; J. Rose, *The Intellectual Life of the British Working Classes (Second Edition)*, (Yale University Press, 2010).

¹³ J. Rule, *The Vital Century : England's Developing Economy, 1714 – 1815*, (Longman, 1992), passim, esp. p. 308.

¹⁴ N.F.R. Crafts, *British Economic Growth During the Industrial Revolution*, (Oxford University Press, 1985), pp. 15-16.

after 1700. By 1800, almost one in every four English people lived in such an urban environment.¹⁵ Some towns even owed their very existence to industrialisation and the growing impulse towards a mechanised and urbanised economy : the town of Devonport itself grew up around a naval dockyard which had begun to rival and even eclipse Portsmouth's famous facility by the end of the Eighteenth Century.¹⁶ Industrial output reflected the steady upward trend, with an average 50% increase in mean per annum growth every 30 years or so from 1700 onwards, reaching an average of 3% per year by the first quarter of the Nineteenth Century.¹⁷ Although these growth figures are averages, and the economy was susceptible to extreme fluctuations¹⁸, the picture of upward growth in the industrial sector of the English economy right up to the advent of the Mechanics' Institutes movement is clear and unmistakeable. A growing industrialised economy required a more modern, technologically and mechanically aware workforce and this workforce went hand in hand with a growing, more urbanised, population. This was a population, however, which would have to be brought up to speed with the practical aspects of the new technological marvels which were reshaping the workplace with astounding speed all around them.

This fast paced demographic, industrial and economic change was matched by other factors. There was a growing popular interest in science and technology – as evidenced by the explosion in the numbers of cheap miscellanies carrying science articles, as well as general popular science periodicals, between 1820 and 1823¹⁹, there was a general movement for the provision of more popular and widespread education by the early Nineteenth Century and lastly there was a recent, though growing, working-class desire for political, social and economic reform.²⁰ Public lectures on the mechanical, physical and cosmological sciences had been a low key, though growing, reality throughout the Eighteenth Century. These tended to be outside academia proper, although some universities, such as Cambridge and Glasgow, provided limited public courses in these areas. For much of the Eighteenth Century, however, the idea of the public lecture was informal and as the Nineteenth Century dawned, there were even a number of itinerant professional lecturers travelling

¹⁵ E. A. Wrigley, 'Urban Growth and Agricultural Change: England and the Continent in the Early Modern Period', in R. I. Rotberg & T. K. Rabb (eds), *Population and Economy*, (Cambridge University Press, 1986), p. 148.

¹⁶ Rule, *The Vital Century*, p. 100.

¹⁷ Crafts, *Growth*, p. 32.

¹⁸ Rule, *The Vital Century*, p. 36.

¹⁹ J. R. Topham, 'The *Mirror of Literature, Amusement and Instruction* and Cheap Miscellanies in Early Nineteenth Century Britain', in G. Cantor, G. Dawson, G. Gooday, R. Noakes, S. Shuttleworth & J. R. Topham (eds.), *Science in the Nineteenth-Century Periodical : Reading the Magazine of Nature*, (Cambridge University Press, 2004), p. 37. See also the book's introduction, esp. pp. 12-16.

²⁰ T. Kelly, *George Birkbeck : Pioneer of Adult Education*, (Liverpool University Press, 1957), pp. 56-57.

from place to place making a living from the growing popular interest in science and technology,²¹ as such historians of popular science as O'Connor²², Cooter and Pumfrey have demonstrated.²³ The fact that there was enough popular interest in this kind of scientific education to sustain a significant, though non-cohesive, 'programme' of lecturing and private study indicates that the time was ripe for a more formal approach, and ties in with the theme of growing desire for education generally.

In 1800, by a circuitous chain of events which lies outside of the remit of this thesis, and which would require an entire book in itself to relate, a young newly qualified English medical doctor by the name of George Birkbeck got himself appointed to the post of Professor of Natural Philosophy at the recently founded Anderson Institution in Glasgow. He inherited a small scale public lecture programme from his predecessor but in March 1800, he made a suggestion to the Institution's trustees for a free course of lectures that would be developed for, and delivered to, mechanics and working tradesmen on the scientific and technological principles lying behind the advances which they were now working with every day.²⁴ Although a small fee was later introduced, the course soon caught on in popularity, running in the evenings and at weekends so working men could attend, with the syllabus expanding to include geography, chemistry, experimental science and astronomy.²⁵ Birkbeck's agenda also developed, as he saw in his courses the ideal means to better the lot of working people and to expand their mental horizons through the means of education.²⁶ This would become the core mission, whether stated in some locations or implied in others, of the entire Mechanics' Institutes movement.

Birkbeck left Glasgow in 1804, making his way south, conducting public lectures and courses as he went – Birmingham, Liverpool, Hull and onward to London, where he took up the role of a practicing medic for the next twenty years or so.²⁷ He found a city which ran with a current of tumult and radical agitation running through it as surely as the river Thames ran through it also.²⁸ Convinced

²¹ Kelly, *Birkbeck*, pp. 58-59.

²² R. O'Connor, "Reflections on Popular Science in Britain; Genres, Categories and Historians", *Isis*, (2009), No. 100, pp. 333-345.

²³ Roger Cooter and Stephen Pumfrey, "Separate Spheres and Public Places: Reflections on the History of Science Popularization and Science in Popular Culture," *History of Science*, (1994), No 32, pp. 237-267.

²⁴ Kelly, *Birkbeck*, p. 37.

²⁵ Kelly, *Birkbeck*, p. 32-34.

²⁶ Kelly, *Birkbeck*, p. 30.

²⁷ Kelly, *Birkbeck*, p. 35-41.

²⁸ J. A. Hone, *For the Cause of Truth – Radicalism in London, 1796-1821*, (Oxford University Press, 1982), passim.

that the key to improving the lives of the working classes was through educating them rather than political radicalisation, he found a small circle of kindred spirits in the capital. While working as a medic, Birkbeck was a veritable dynamo. He joined society after society and rose to high office in nearly all of them – Guys Hospital Physical Society (he became president of it), the Astronomical Society (he became a fellow of this), the Geological Society, the Royal Society of Medicine (vice-president between 1818 and 1820, eventually being elected president in later life) and the Meteorological Society of London (becoming the first president). He was a founder member of the London Institution, became its manager and, from 1820 onwards, lectured once again to the public. His course lasted 12 weeks, was free, and covered such diverse topics as astronomy, hydrostatics, optics and practical mechanics. Somehow, Birkbeck also managed to find the time to help found a school of medicine at Aldersgate and to work for the *London Medical Review* periodical. He also buried his first wife during this period, married another, and fathered six children in all.²⁹ These wide ranging interests reflected the syllabus of the Mechanics Institutes, which, in 1823, were about to spring into life.

Glasgow had missed George Birkbeck. Although his classes had continued to be taught by others in his absence, the working men of the city still appreciated the work which Birkbeck had begun there. In early 1823, attendants of the classes proposed to have a memorial to Birkbeck installed on the premises, and they agreed on a portrait as a fitting tribute. Birkbeck eventually signalled his approval. Shortly afterwards, there arose friction between the Mechanics who attended the classes and the Anderson Institution which provided them, centred around timing of classes together with disagreements over ownership of books and equipment, as well as responsibility for approving and obtaining new material. Things came to a head and in July 1823, the Mechanics seceded from the Anderson Institution and formed an independent School of Arts. This School was formally inaugurated in November 1823 and bore the name Glasgow Mechanics' Institution. The new organisation began its life solely and completely under the control of the working men themselves, and rented a disused chapel as its premises. They appointed a paid lecturer to teach the physical and chemical sciences and, with help not least from an approving Birkbeck, put together a library and a laboratory. This, the first Mechanics' Institution, taught courses in its first year which included natural philosophy, chemistry, mechanical science, mathematics and astronomy. Over 1000 students took the courses in the first year alone. The success began to spread – by the end of the year, there were examples in Liverpool, Sheffield, Kilmarnock and Greenock. Also, by the turn of the year, citing

²⁹ Kelly, *Birkbeck*, pp. 40-55.

Glasgow as an example, a Mechanics' Institute was inaugurated in London itself. Among its founders was one George Birkbeck.³⁰

It should be noted that the first true Mechanics' Institute was the one founded in Glasgow. A counter-claim by Heriot-Watt University that it grew out of a Mechanics' Institute founded in 1821 as the Edinburgh School of Arts is in error. Although this facility certainly existed, and catered to the education of a limited number of working men³¹, it was no Mechanics' Institute: it boasted no reading rooms and solely existed to provide courses of lectures which were priced per course³² rather than requiring a subscription fee for general membership as Mechanics' Institutes did. It is indicative of the research gap which currently exists regarding the Mechanics' Institutes movement as a whole that this error is now reported as accepted fact and, to compound this, Birkbeck is even claimed in some quarters to be the Edinburgh institution's founder³³. Needless to say, this is nonsense (as we have seen, Birkbeck was in London at this time), although it is nonsense which is gaining credence as accepted wisdom on the matter, simply because little research into the movement as a whole is being conducted.

The movement spread. Some examples, like Glasgow in its initial phase, were the work of working men themselves. Others were the brainchild of middle class or upper class proponents of either the idea of having a better educated, skilled, and above all productive workforce, or genuinely believed that working people could improve their lot in life and those of their families – not to mention their morals and manners - by education. There was a real humanitarian and philanthropic impulse to the founding of some Mechanics' Institutes, given that the rising population had put a corresponding higher strain on resources, leading to greater population density in urban areas; most people, even working people, were poor³⁴ and using infant mortality as a marker for deprivation, poverty and poor living conditions, the death rate for those under the age of 4 in 1823 was over 20 times higher

³⁰ Kelly, *Birkbeck*, pp. 70-92.

³¹ P.N. O'Farrell, *Heriot-Watt University: An Illustrated History*, (Pearson, 2004), passim.

³² R. Jameson, "Some Account of the School of Arts of Edinburgh", *The Edinburgh Philosophical Journal*, (1824), No. 11, pp. 203-205.

³³ H.V. Kraus, "A Cultural History of the Mechanics' Institute of San Francisco, 1855-1920", *Library History*, (June 2007), vol. 23, pp. 115-128.

³⁴ M. Paterson, *A Brief History of Life in Victorian Britain: A Social History of Queen Victoria's Reign*, (Constable and Robinson, 2008), p. 32.

than it would be by 1980.³⁵ Civic pride also came into play as the movement continued to expand.³⁶ We can see how some of these new Institutions saw themselves in their constitutions, inaugural addresses and annual reports. Manchester Mechanics' Institution which came into being in 1824 stated that it was "... formed for the purpose of enabling Mechanics and Artisans of whatever trade they may be, to become acquainted with such branches of science as are of practical application in the exercise of that trade..." and the example founded in Leeds that same year agreed with that same general principle with an emphasis on supplying tuition "... at a cheap rate, to the various classes of the community...". In Derby, while this aim was shared, there was also a motive stated, which was "... a desire to improve [working class] mental and moral condition... that as a direct consequence, the whole form and body of society will exhibit a fairer aspect..." while in the Potteries area the members of the new Mechanics' Institute of 1827 would be steered towards "... improvements in their habits and morals..." by virtue of "... instruction of [the members] in the principle of the arts they practice [as well as] science and literature in general...". Stockport and Delph combined both of these aims explicitly while "... strictly excluding politics and controversial theology."³⁷ Birkbeck's dream of education for the sake of it was not shared by all, by any means³⁸, and it should be noted that the middle class flavour of certain Institutes, together with the out and out ban on such topics as politics and theology, actually deterred some working men from joining.³⁹ Whatever the particular aim of any given Mechanics' Institute, at any rate there were 81 of them in England alone by the end of 1826.⁴⁰ Distribution by this time followed two distinct patterns; industrial centres and sea ports. London quickly acquired a cluster of Mechanics' Institutes in its immediate environs. Birmingham, Manchester, Leeds and Newcastle-upon-Tyne had prominent examples. There were small but growing footholds in marine locations such as Portsmouth, Bristol and Liverpool. Meanwhile, in Devon, there were two examples; one in Plymouth and one in neighbouring Devonport.⁴¹ It is to the latter that we shall now turn in our summary of the history of the Mechanics' Institute movement.

³⁵ B. Harris, 'Commentary : 'The Child is the Father of the Man.' The Relationship Between Child Health and Adult Mortality in the 19th and 20th Centuries', *International Journal of Epidemiology*, (2001), vol. 30, pp. 693-694.

³⁶ A. Chadwick, B. Graham, S. Harrop, D. Legge & L. Oglesby, *Victorian Learning and Leisure 1 : Mechanics' Institutes (Second Edition)*, (Standing Conference on University Teaching and Research in the Education of Adults (SCUTREA), 1984), pp. C1-C2. I am indebted to Professor Chadwick for providing this material as it has long since ceased to be in print.

³⁷ Chadwick et al, *Mechanics' Institutes*, pp. C3-C4.

³⁸ E.W. Grinfield, *A Reply to Mr Brougham's 'Practical Observations upon the Education of the People'*, (C & J Rivington, 1825), passim esp. p. 14.

³⁹ J. Rose, *The Intellectual Life of the British Working Classes (Second Edition)*, (Yale University Press, 2010), p. 71.

⁴⁰ Kelly, *Birkbeck*, p. 329.

⁴¹ Chadwick et al, *Mechanics' Institutes*, p. F4.

By the 1820s, the Royal Naval Dockyard at Plymouth had grown sufficiently in size, importance and activity to support an urban population all of its own, effectively becoming a self-contained settlement independent of the City of Plymouth. It was a dynamic, bustling and overcrowded place, with one contemporary account describing building work still ongoing, as the authorities worked at fortifying both the town and the Dockyard itself, places of worship, charitable institutions, and community services such as banks, a town hall and a dispensary springing up to accommodate a fast growing and already densely packed population, as existing facilities failed to keep up with fast-rising demand. Devonport, together with the districts of Morice-town and Stoke, had a population of around 35,000 souls by 1828. All of this in an area of approximately 1.5 square miles.⁴² Here we can see the economic trends discussed earlier in this chapter at work in a real environment, so that statistics, percentages and averages are replaced by the feet of real people, making their way through the throng along Devonport's "wide and well-built streets" and "foot-ways... most beautiful".⁴³

Devonport Mechanics' Institute added to these attractions from 1825, during what might be considered the first wave of the movement.⁴⁴ From the start the library appears to have been well stocked and well maintained, and the Institute boasted a lecture programme provided both by visiting specialists and by enthusiasts within the Institute itself. Membership cost 3d per week while apprentices benefitted from a concessionary fee of 2d.⁴⁵ The impulse to form this Institute had first made itself publicly visible in a letter to a local newspaper dated 14 February 1825. This letter, attributed to the pen-name 'Amicus' (later revealed to be a former mechanic), exhorted the local populace to form a Mechanics' Institute for the benefit of the working classes, so that they could advance their own knowledge as an end in itself. 'Amicus' illustrated his point with current events from up and down the country, pointing to the Institutes that were currently coming into being. There were subsequent letters of support, including one from a Mr R. Burnet (more of whom shortly) who stated that Devon seemed behind the current trend towards working class self-

⁴² H. E. Carrington, *The Plymouth and Devonport Guide*, (Longman, 1828), pp. 1-10.

⁴³ Carrington, *Guide*, p. 1.

⁴⁴ T. J. Bickford & D. Hole, 'Technical Colleges in the 'Three Towns'', in A. Kennerley (ed.), *Notes on the History of Post-school Education in the 'Three Towns', 1825-1975*, (Plymouth Polytechnic Learning Resources Centre, 1974), p. 7. I am indebted to Mrs Sheila Wilcockson of Plymouth Athenaeum for providing access to this text which has long since gone out of print. Even the Polytechnic's successor institution does not seem to have a copy!

⁴⁵ Carrington, *Guide*, pp. 4-5.

education, that outsiders could exploit this backwardness and that it was the duty of the mercantile capitalist middle and upper classes to provide the means to correct this, by organising and bankrolling the formation of a Mechanics' Institute. Burnet suggested that a meeting should take place with all haste to get the Institute up and running. 'Amicus' responded via the newspaper with approval, welcoming the proposals, however he stated his own preference that the working classes themselves be permitted to create and operate the Mechanics' Institute themselves. He cites the examples of Glasgow (which as we have seen was founded by working men themselves) and Newcastle-upon-Tyne (which we must now infer was inaugurated along the Glaswegian model). For good measure, he uses the example of Manchester we have already encountered as a cautionary tale against taking power away from the workers themselves – there, low attendance at the 'official' Institute would subsequently be followed by the establishment of a break-away Institute founded by the workers themselves, free from the interference and influence of their social betters.⁴⁶

We can see here that the debate between middle and upper class preferences, and those of the working Mechanics themselves, is present right at the inception of the Devonport Mechanics' Institute. The former seeks to guide the latter towards such intellectual and moral improvement as would benefit the economy and society in general. The latter seeks to improve itself more generally through a wide-ranging, universal and unlimited programme of self-education, determining its own agenda. We can also perhaps see an intriguing commonality emerging here, a feeling of kinship with certain other cities and certain other types of workers. Both Glasgow and Newcastle are first and foremost seaports. Devonport is also a port and, indeed, owes its very existence to one. Is there something perhaps in the mindset of British dock workers during this period that lends itself to intellectual independence in endeavours of this kind?

'Amicus' reasoning as to why the workers themselves should be placed in charge of the endeavour availed his cause little. Burnet was a leading voice at the public meetings which followed. Limits on what the Institute could teach and discuss were agreed – like middle and upper class guided examples elsewhere, religion and politics were forbidden from forming part of the agenda. Officers and a provisional committee were elected. Burnet was elected to the committee. 'Amicus', who's

⁴⁶ M. I. Lattimore, *The History of Libraries in Plymouth to 1914: A Study of the Library Developments in the Three Towns of Plymouth, Devonport and Stonehouse which amalgamated into Plymouth in 1914*, (PhD Thesis, University of London, 1982), pp. 229-230; R. Kargon, *Science in Victorian Manchester: Enterprise and Expertise*, (Transaction, 2009), p. 22-24.

idea the whole enterprise had been, was not. To a man, the inaugural committee and office holders were middle class. This is hardly surprising, giving that Burnet had estimated the running costs per year of the Institute at £120. In the event, 'Amicus' pledged a £5 donation at the inception of the Institute. Burnet contributed £10 from his own pocket.⁴⁷

That the granting of working class control of the Mechanics' Institute was not forthcoming was not a matter which was taken for granted in Devonport. In April 1825, we see a hint of more depth to this question, which also sheds light on the place of Devonport's Institute in the national picture. The debate over how much – or how little – control was to be ceded to working members was a very real one, being conducted up and down the country, even in London. Burnet himself received correspondence from champions of both sides of the argument, from Birkbeck's old friend and fellow co-founder of the London Mechanics' Institution, Henry Brougham⁴⁸, and from another co-founder and original drafter of that body's rules and articles of association⁴⁹, Francis Place. It is interesting that Place's letter is critical of Brougham's advice to put the Devonport Mechanics' Institute "... at once under the management of the mechanics..." and he states quite categorically that London's Institution would have failed if working men were allowed to manage it.⁵⁰ In the event, upon the drafting of Devonport's Rules and Orders, we see that although Devonport failed to go as far as the model favoured by 'Amicus', it still went further than many; although London, and other widespread examples as far apart as Deptford and Dumfries adopted a model of management that established a committee that was made up of two-thirds working men, Devonport's was three-quarters working men.⁵¹ London, in this as much as many other things even now, appeared to be the centre of all, providing at least an example if not necessarily dictating the pace of change and in what direction that change was aimed. As we can see from the example provided however there were certainly attempts mounted from the capital to mould provincial examples of Mechanics' Institutes. We therefore gain an understanding of Devonport Mechanics' Institute as less of a local enterprise and more of a localised example of a national movement, certainly in contact with the inspirational centre even if not necessarily taking direction from it.

⁴⁷ Lattimore, *History of Libraries*, pp. 230-232.

⁴⁸ Kelly, *Birkbeck*, p. 11 (for the beginnings of their acquaintance), 82-84 (for Brougham's status as co-founder and financial backer).

⁴⁹ Kelly, *Birkbeck*, p. 61.

⁵⁰ Kelly, *Birkbeck*, p. 219-220.

⁵¹ Kelly, *Birkbeck*, p. 219.

Devonport Mechanics' Institute, then, as founded, was among the first wave of the Mechanics' Institute movement in Britain. In many ways it is typical – it is born out of a desire to better educate working men for practical, moral and social reasons. It is typical in that it has middle class backing married to a working class impulse for self-improvement. It is typical in that it is established in a fast growing urban centre. Yet it is also atypical. It is atypical because it does not adhere to the London model of committee membership, and therefore grants more control to working class members over the organisation as a whole than what might be considered the norm. It appears to be, like many other examples of its type of organisation, a mix of working class aspiration and middle class sensitivity and pragmatism. Mr Burnet, as we shall now see, was a champion of both sides of this equation.

Burnet seems to have been a mercer and draper, a cloth merchant, and a native of Devonport. He appears to have joined his family business through either a father or older brother named James who was active in Devonport, with a shop on the town's Fore Street, by at least 1812.⁵² The name at first is spelled 'Burnett' however by 1823, the trailing letter had been dropped and we see a Mr R. Burnet plying his trade in the bustling heart of Devonport alongside a Mr J. Burnet.⁵³ A member of the emergent industrious and mercantile middle-class, therefore, Burnet's attitudes in his letter exchanges in 1825 now make sense. 1826 would see another side to his character however, with the publication of a quite remarkable piece of work from Burnet's own hand.

For the study of any Mechanics' Institute, it is of tremendous use for any historian to have, written in his own words, the "manifesto" for want of a better word, of the organisation's founding father. With Devonport, that is exactly what we are fortunate enough to have. In 1826, Burnet's text, "*A Word to the Members of the Mechanics' Institutes*", saw print and it provides insight into the motivations, reasoning and methodology of the major driving force behind the organisation of Devonport Mechanics' Institute. His foreword to the text reveals an attitude that is one of self-help being a cure for all of a worker's ills, as well as it being the duty of all to give workers the means to support themselves through their own labours rather than charity. Perhaps it is his background as a

⁵² *The Picture of Plymouth, Being a correct guide to the public establishments, charitable institutions, amusements and remarkable objects in the towns of Plymouth, Plymouth-Dock, Stonehouse, Stoke And Their Vicinity. Also A List Of The Principal Inhabitants Of Those Towns*, (Rees & Curtis, 1812), p. 213.

⁵³ *The Tourist's Companion : Being a Guide to the Towns of Plymouth, Plymouth-Dock, Stonehouse, Morice-Town, Stoke and Their Vicinities...; with a Directory of the Principal Trades-people*, (Longman, Hurst, Rees, Orme and Brown, 1823), p. 197. As with the previous note, Devonport is here referred to by its archaic styling of 'Plymouth-Dock'.

cloth merchant that makes him choose silk weavers as an example, and to elect to start a trend of using silk bindings for books by using his own as a touchstone in this, so by doing so he might create more work for the struggling weavers.⁵⁴

Burnet continues in this vein, using economic arguments to support his core thesis – namely that education of the working man is not only desirable, but necessary.⁵⁵ Economic arguments soon give way to ones of collective civil pride, not just at national level but even at county level⁵⁶, before a whistle-stop tour of technical progress ensues, using advances in cloth manufacture as an unorthodox (although, for a cloth merchant, entirely understandable) guide – from coarse linen to cotton to silk stockings and decorative fixings such as enamelled pins – arriving at the point that the education and progress of workers adds to a sense of communal inventiveness and the shared fruits of the resulting progress.⁵⁷ Burnet does not stop at economics or the common good. He proceeds to gallop through the moral improvement to be enjoyed by society as a result of the guided education of the working classes, appealing to scriptural authority, world history, and examples drawn from all around the world of how – in Burnet’s view – societies should not operate in order to prove his points.⁵⁸ The Chinese, according to Burnet, apparently treat their children cruelly, people in the Caucasus kill their elderly for sport and Caspians casually toss the corpses of their dearly departed to the dogs instead of burying them. All of this, however, is also used to illustrate the point that no matter how advanced a society may think itself, no matter how great and enduring its monuments, works of art and literature, there are always those who are demonised for being of low character, and deservedly so. Furthermore, if left to their own devices then these people of low moral character would either rise up and overthrow their betters, or else sink ever deeper into depravity, neither of which is a desirable outcome for Burnet. Education was thus the answer to restraining such “passions.” Burnet takes us through lengthy digressions into the taxonomy of Linneaus, cloth manufacture (again), comparative religion and the history of the Church on the way, proving that, if nothing else, he was very well read.⁵⁹ Above all, from what at times is a muddled manifesto on working class betterment through education, a real feeling of passion for his cause emerges from Burnet’s words. It may well be because of such passion and belief that *Devonport Mechanics’*

⁵⁴ R. Burnet, *A Word to the Members of the Mechanics’ Institutes*, (Johns, 1826), foreword. The page itself bears no number.

⁵⁵ Burnet, *Word*, p. 6.

⁵⁶ Burnet, *Word*, p. 7.

⁵⁷ Burnet, *Word*, pp. 8-12.

⁵⁸ Burnet, *Word*, pp. 46-50.

⁵⁹ Burnet, *Word*, pp. 51-75.

Institute was atypical, going against the trend of minimising working class representation on the governing committee.

Devonport Mechanics' Institute also moved in the opposite direction to the general trend by its very survival. We have seen how the wider economy, then as now, was subject to fluctuations. In the very year of Burnet's manifesto, the nationwide impetus which had carried the movement forward slowed sharply. In 1826, less than a fifth as many institutes were founded as in the previous year. Nationally, the picture began to emerge of not just an arresting of the movement's development but a decline – examples across London's suburbs shut their doors, institutes in smaller towns and villages across Scotland such as Musselburgh and Eaglesham went to the wall. Even the bigger institutes, such as Birmingham, Aberdeen, London itself, Manchester and Glasgow all either suffered from depressed membership numbers, or came close to going out of business altogether.⁶⁰ The prime reason for these difficulties was that 1826 saw a severe depression across all sectors of the economy. Unemployment and falling wages resulted, and money was thus in short supply when it came to the finances of working men. Mechanics' Institute subscriptions were often payable quarterly⁶¹ placing greater strain on the working pocket, however as we have seen Devonport's Institute insisted instead on a more frequent, but smaller and therefore more affordable, weekly subscription fee. Another nationwide negative influence was problems with funding from higher social classes, either when it was reduced or abruptly withdrawn due to the wider economic picture. York is a particular example of an Institute which almost went bust when its support dried up.⁶² Although Devonport Mechanics' Institute had its problems, specifically losing £100 when a bank failed at this time, it still had over 500 members by the end of 1826 and a well-stocked, and steadily increasing, library to boot, complete with the latest texts and periodicals.⁶³ Inward investment, it seemed, was not an issue there; struggling Institutes would hardly have had the facilities to attract a member base of this size, nor accommodate that member base's reading needs.

Devonport did not run counter to the trend for long, however; membership began to decline by the early 1830s and by 1836 had fallen to around 100. Funding from membership fees began to dry up, and the lecture programme, up to that point wide ranging and substantial with healthy attendance

⁶⁰ Kelly, *Birkbeck*, pp. 222-223.

⁶¹ Kelly, *Birkbeck*, p. 225.

⁶² Kelly, *Birkbeck*, pp. 225-226.

⁶³ Lattimore, *History of Libraries*, p. 238.

figures, began to become more limited in scope with smaller audiences. This can be linked to a gradual decline in the fortunes, and thus the attendant workforce, of the Devonport Naval Dockyard itself, which shed large numbers of workers during the period to around 1842.⁶⁴ This may well have been a delayed knock on effect from the wider national economic picture already mentioned – successful thriving nations import more, export more, and are able to better finance naval expansion and refurbishment, while economically struggling states have other priorities, whatever their global status as imperial powers. It may simply be that although Devonport Mechanics' Institute owed its decline during the 1830s and into the following decade to the Naval Dockyard's corresponding fall in fortunes, it also owed its survival to the same facility – the fact that Britain still needed a strong navy to some extent may have protected Devonport's Institute from the worst of the downturn. It is interesting that Institutes in non-military dockland areas such as Southwark, Stepney and Poplar in London, together with Liverpool in the north, all went through periods of severe contraction or else simply went out of business.⁶⁵

Devonport Mechanics' Institute soon began to recover from this period of decline, however it owed this renaissance to an influx of middle class members. The organisation certainly felt confident enough to plan, raise funding and arrange credit for, and oversee the construction of, new purpose built premises to house it, replacing Devonport Town Hall. The new building featured a lecture theatre which could comfortably accommodate over 1000 souls, a library which played host to 3000 volumes by 1850 and a reading room⁶⁶ which, for the sum of 15 shillings per year, non-members could also enjoy the use of.⁶⁷ By 1849 tradesmen, rather than mechanics, comprised most of the Institute's membership, although there remained a significant core of working class subscribers. By 1850, membership had risen to 825, including about 120 women and around 200 working men. When a new wing was added in that year, a major exhibition of science, technology and the fine arts was held which attracted the attentions of the Commissioners of the Great London Exhibition who used their visit as inspiration for their own later endeavour.⁶⁸ This seemed to have been the heyday of the Devonport Mechanics' Institute, when members could partake of a substantial library and lectures, all hosted in a brand new custom built facility. Those lectures as part of regular classes included such subjects as natural history, English grammar, literature, languages both ancient (Latin)

⁶⁴ Lattimore, *History of Libraries*, p. 239.

⁶⁵ Kelly, *Birkbeck*, p. 223.

⁶⁶ A. Kennerley, *The Making of the History of the University of Plymouth*, (University of Plymouth Press, 2000), p. 32.

⁶⁷ Lattimore, *History of Libraries*, p. 240.

⁶⁸ Lattimore, *History of Libraries*, p. 241.

and modern (German, French, Italian), economics, drawing, mathematics, physical sciences and law.⁶⁹ Guest lectures, using the first part of 1859 as an example, included such diverse topics as “Musical Entertainment”, “The Poetry of Mathematics”, “Recent Discoveries in Electrical Science” and “Barbarism and Civilisation Contrasted”.⁷⁰

By 1864, the ebb and flow of socioeconomic forces had become an issue again. Membership numbers were falling once more, down to a total of 461, only 330 of which paid the full fee as the others were either apprentices and other junior members, or else were honorary members who had donated substantially to the Institute in the past and had been rewarded with life membership.⁷¹ It goes without saying that an organisation with a purpose built building, established with the aid of credit, which had running costs to meet such as lecturer’s fees and library stock, not to mention utilities, soon came to realise that an enterprise of such scale could not be run on largely cut price membership, that yesterday’s favours do not help one’s finances today or tomorrow. We thus find Devonport Mechanics’ Institute facing significant financial stress, and in need of making cutbacks, as we reach 1864. In this year, this most atypical of Mechanics’ Institutes and with its defiance of trends, with its middle class priorities and its leanings away from controversy, enshrined in its very soul since inception, would find the footfalls of a wandering lecturer disturbing in the extreme, as he sought to set his own trend and establish his own intellectual movement. In late 1864, Parallax came to town.

⁶⁹ Lattimore, *History of Libraries*, p. 239.

⁷⁰ Kennerley, *Making of*, p. 34.

⁷¹ Lattimore, *History of Libraries*, p. 245.

Chapter Two

So far we have seen how the microhistorical approach can be used to explore an individual case study at the level of a local organisation and contextualise it in the wider picture. We shall now use the same approach to mount the same exploratory journey, only this time at the level of an individual life, and the journey of an individual person, so that we can again place a case study in its historical context and extract knowledge and understanding from the wider picture. We shall begin in the industrial northwest of England.

In 1844, Stockport was described by no lesser commentator than Friedrich Engels as “... one of the duskiest, smokiest holes, and looks... excessively repellent...”⁷² and it was against this backdrop, with no discernible fanfare, that Samuel Birley Rowbotham was born in 1816.⁷³ We know as little about his childhood and youth as we do about the circumstances of his birth however by the advent of the late 1830s, he was deep in the Cambridgeshire fenlands, managing a radical socialist commune allied to the ideology propounded by Robert Owen.⁷⁴ Owen, sometimes considered “the father of British Socialism”, had much in common with such social reformers and civilisers of the working classes as those we have met already such as Birkbeck, Brougham and Place. He believed that if all evils, moral as well as social, could be traced back to one root cause, then that cause was ignorance. He used his wealth – he was a factory owner of some success – to put his beliefs into practice, and he began to experiment, building whole communities around his agenda of reforms in education and in labour. New Lanark in Scotland is a prime example.⁷⁵ By managing such an experiment, Rowbotham showed that, at least at this stage of his life, he identified strongly with improving the lot of working people. The parallels with Burnet and the other founders of Devonport Mechanics’ Institute are interesting; the Mechanics’ Institute in Devonport, and indeed the entire movement, was born out a desire to improve the lot of working people through education, and as we have seen in particular with Burnet’s manifesto, that improvement was also allied closely with the idea of the revision of a social structure, a status quo, which wasn’t working. Improvement of the working classes through reform of the existing social order, especially through reform of labour

⁷² F. Engels, *The Condition of the English Working Classes in 1844*, trans. F. K. Wischniewetzky, (Cosimo, 2009), p. 43.

⁷³ C. Garwood, *Flat Earth : The History of an Infamous Idea*, (Pan Books Paperbacks, 2008), p. 36.

⁷⁴ Garwood, *Flat Earth*, p. 36.

⁷⁵ R. Miliband, “The Politics of Robert Owen”, in *Journal of the History of Ideas*, Vol. 15, No. 2, (Apr. 1954), pp. 233-245. Miliband fathered noteworthy milestones in the evolution of English Socialism himself!

and productivity models, was the stated purpose of the Owenite movement. Through his involvement with the commune system, we can deduce that Rowbotham subscribed to a point of view which held the existing models and paradigms of social structure in the nineteenth century to be wrong. We can perhaps also deduce something of Rowbotham's social background as well. Stockport was a poor area, just as much at the time of his birth as when Engels was writing some years later. Not a poor area with pockets of the well-to-do adjacent to it – it was a slum. To be from Stockport during the early 1800s was to be from a poor working class background. Engels himself noted that even by the standards of crushing poverty as seen across the whole Manchester district, Stockport was a particularly poor and run down place.⁷⁶ Rowbotham was poor, and by the 1830s was on the other side of the country from his place of birth, managing a radical socialist commune.

It is during this period that Rowbotham began to show a discernible interest in the fields of experimental sciences, geometry, geography and optics. We do not know what motivated him to ponder upon the shape of the earth but we do know what he was soon up to – lying flat on the ice of a frozen Old Bedford Canal and apparently observing skaters 6 miles away. This was, to his mind, only possible if the earth were flat. He swiftly married this realisation to a mathematical argument, “proving” his observations, together with a strong streak of biblical literalism. For every observable shape, form, motion and phenomena in visible creation, he crafted an explanation that would fit with his theory, using the twin languages of science and religion to form a twin pronged assault on any who would oppose his views.⁷⁷

Accused of moral impropriety, Rowbotham was forced to leave the commune sometime around the turn of the 1840s perhaps. He took to the road, first as a wandering socialist lecturer and then as a quack doctor plying his trade across his native Cheshire, and into Lancashire and also Yorkshire. Rowbotham had no formal qualifications in medicine, or indeed it seems, in anything else. He would return to such practices during gaps in his later lecture tours, as we shall see. Although there do not seem to be any records of his time spent as a wandering speaker on social reform, there is an intriguing entry in a London newspaper from May 1845, where just such a speaker begins his talk by outlining social reform before moving the lecture in a “blasphemous” direction, at which point he seems to be at great risk of being attacked by many of his audience, although there were others who genuinely wanted to hear what he had to say. A fight broke out and the lights were suddenly

⁷⁶ Engels, *Condition*, p. 43.

⁷⁷ Garwood, *Flat Earth*, p. 36-39.

extinguished and the lecturer sneaked away.⁷⁸ Although this may well have been the natural reaction of any lecturer when fists start to fly in a hostile hall, it is tempting to see here the hallmarks of an approach which is all too reminiscent of Rowbotham's when he visits Devonport in 1864, as we shall see.

Perhaps motivated by a desire to avoid the occasionally all too real physical risk associated with propounding socialist doctrine, perhaps instead motivated by a desire to make some money in the world, Rowbotham proceeded to peddle quack cures for aging, claiming to have cracked the secret of advanced longevity, if not out-and-out immortality.⁷⁹ It does not seem to have been altogether successful, and in any event he soon returned to his obsession with the shape and form of the earth. Taking the name "Parallax" - the name is significant, meaning the different perceptions of the same object or phenomenon as observed from two different viewpoints - he embarked on what would become his life's work, taking his message to the masses, dubbing his theory "Zetetic Astronomy".⁸⁰

An intriguing account from early in his flat earth lecture career comes from December 1849, where we find Parallax lecturing in Burnley and reviewed in a local newspaper. The piece is not couched in respectful terms. We find Parallax described as an "itinerant lecturer", and disparaging comments were made about his physical stature – it seems likely, however, that this was a play on words, designed to draw attention to the stature of the theories which he was attempting to overthrow and, by extension, the Newton-sized boots he was attempting to fill. It is notable, in this context, that the scientists he was attempting to oppose, not just Newton but such luminaries as Kepler, Copernicus and Galileo, are described as "great" in direct opposition to the comments concerning Parallax's own stature. This was at a time when poems had even been penned in Newton's honour by such greats of literature as Wordsworth.⁸¹ The review goes on to accuse Parallax of ducking such difficult questions as why the masts of ships remained visible above the horizon after the hull had vanished below, by procrastinating, promising to deal with this and similar proofs in a second lecture scheduled to take place a few days hence. Come the hour of the second lecture, the paper noted, and there was no Parallax in sight. Perhaps he had fallen off the edge of his flat earth, the paper

⁷⁸ *The Morning Post*, (London), May 15, 1845, p. 6.

⁷⁹ Garwood, *Flat Earth*, p. 39.

⁸⁰ Garwood, *Flat Earth*, pp. 39-41.

⁸¹ W.F. Cannon, "The Normative Role of Science in Early Victorian Thought", in *Journal of the History of Ideas*, Vol. 25, No. 4, (Oct-Dec 1964), pp. 487-502.

mused.⁸² The venue, incidentally, is the Working Men's Newsroom, what sounds suspiciously like a Mechanics' Institute in all but name, or at least the reading room of one, although as Kelly observes names were not always fixed and a Mechanics' Institute in spirit as it were could go by one of several different titles.⁸³ It seems, on reflection, that Burnley Working Men's Newsroom and Burnley Mechanics' Institute are one in the same; Tylecote informs us that Burnley Mechanics' Institute first came into being in 1834 as a reading group for "the earnest few" meeting in an old house on a street corner⁸⁴ before moving to new custom built premises in 1855.⁸⁵ It seems likely that Parallax was addressing this room for the "earnest few". It would certainly fit the pattern which would typify Parallax's lectures – he tended to gravitate more towards working people when it came to lectures in public, as we shall see.

Of more businesslike tone is an edition of *The Newcastle Courant* dated December 14, 1849. This edition carries a few lines indicating that Parallax had been on the move and had given two lectures recently in Bury. What is interesting here is that it is noted that Parallax was engaged in debate on the true shape of the earth with an architect named Chatwood⁸⁶, again a foretaste of things to come as our itinerant lecturer engages in public debate with intellectual opponents. No hint is given, unfortunately, as to what any of the audience might have thought – the newspaper seems more interested in that fact that Parallax and the venue – this time Bury Mechanics' Institute - split the proceeds of the lectures between them once all expenses had been taken care of, the princely sum of four pounds, five shillings and ten pence.⁸⁷ Debate was evidently good for the pocket as well as the soul and mind. Bury, incidentally, was a reformed Mechanics' Institute, a one-time casualty of the economic downturn of the mid to late 1820s mentioned in Chapter One.⁸⁸ We can also note that the events are being reported in a Newcastle newspaper, and be reminded that Newcastle was quoted by 'Amicus' of Devonport as an example of a Mechanics' Institute which was run by working men themselves. We see here reporting of fact without denigrating language nor attack upon

⁸² *The Blackburn Standard*, December 12, 1849, p. 3.

⁸³ Kelly, *Birkbeck*, p. 212.

⁸⁴ M.P. Tylecote, *The Mechanics' Institutes of Lancashire and Yorkshire Before 1851*, (Manchester University Press, 1957), p. 112.

⁸⁵ *A History of Burnley Mechanics*, sourced via Burnley Mechanics Website, operated by Burnley Council. URL : <http://www.burnleymechanics.co.uk/history.php> accessed : March 10th 2012.

⁸⁶ Unverifiable family history seems to name this man as Joseph Chatwood, himself a wandering lecturer. He supposedly challenged Parallax to a public demonstration of their respective theories however, on the day in question, the flat earth theorist appears not to have turned up. These anecdotes have been placed in the public domain at http://website.lineone.net/~davghalgh/x_joseph.html and while they add colour, alas cannot be verified.

⁸⁷ *The Newcastle Courant*, December 14, 1849, p. 3.

⁸⁸ Kelly, *Birkbeck*, p. 223, 310.

Parallax's motives or personality, and this may hint at a correlation between the attitudes of local newspapers towards events at Mechanics' Institutes in general, and the social makeup of the Institutes in that locale themselves.

In February 1850, we find Parallax having reached Cheshire. An edition of *The Liverpool Mercury* dated February 12th of that year sees Parallax having written a letter to the editor, briefly detailing his beliefs and a recent experiment he has carried out in order to illustrate and support them. He noted that this experiment was part of a series of such tests he had carried out, across the country in such disparate places as Brighton, Southampton, Yarmouth and the Bristol Channel. He described an experiment at Formby Point, near Liverpool, whereby an observation of a flagstaff and a theodolite over a distance of 9.5 nautical miles resulted in a straight line, which "proves" that "the doctrine that the earth is a globe is fallacious". Throughout, his tone is scientific, rational, calculated. He used the language of experiment and the laboratory continually, referring to such concepts as "datum", "equidistant", "tangent", "inclination" and "horizontal refraction", before rounding his letter off with the statement that "... the only conclusion logically and mathematically derivable from the... experiment is, that the surface of the sea between Liverpool and Formby is perfectly level!"⁸⁹ Along with his experiments in the Cambridgeshire fens, this series of experiments, and others he would subsequently carry out at other stops along his lecture tours, would be added to his terms of reference which over time became a substantial corpus of experimental data and observations which he marshalled in support of his theory. This may be a factor in his later successes – a theory supported by a plentiful supply of measurements and other evidence is harder to refute than a theory which is not, especially if the audience is not educated to a high enough degree to critically evaluate the findings. This was to become a very real fear, as we shall see.

We see from this example that Parallax had by this time moved from being a mere passive player in newspaper content to an active shaper of it, intent on stimulating broader and more public debate. His motive can only be guessed at, perhaps he had decided that the time had come to attempt to appeal to a wider audience than those which might be tempted to attend a visiting lecturer's turn at their local Mechanics' Institute, in order to enhance the more general spread of his ideas via the popular written word. Perhaps wider interest opened the door to greater financial rewards. In any event, this was a departure. Who were his audience though?

⁸⁹ *The Liverpool Mercury*, February 12, 1850, p. 5.

In 1839, an obscure textbook named “*The Silurian System*”, written by a Scot named Roderick Murchison on an obscure type of sedimentary rock, became an instant bestseller, running through four editions. The fact that it was declared by one of Murchison’s peers to be ‘unreadable’ did nothing to lessen its popularity.⁹⁰ Even by the early nineteenth century, a significant working class reading audience existed as can be demonstrated from sales figures for periodicals aimed at just such an audience: a 2d abridgment of a popular publication of the time, dubbed ‘vile two penny trash’ by its own publisher, could sell as many as 70,000 copies per week by 1816.⁹¹ The *Mechanics’ Magazine*, a publication for the skilled worker and aimed at the kind of person who was the target audience for Mechanics’ Institutes themselves, was launched in 1823 and enjoyed enough fortune and favour in readership numbers to stay in print for the next half century, while one of the most popular cheap general interest periodicals of the day devoted significant column inches to new discoveries in science.⁹² A notable barometer of public interest in science was the Great Exhibition of 1851, which was open for five and a half months and by its close had seen just over 6 million visitors.⁹³ Once admission prices to the Exhibition had been dropped to one shilling, more and more working class people visited, showing significant interest in exhibits concerning machinery, mechanisation and the practical application of science.⁹⁴ Contemporary newspapers noted the special affinity for, interest in and engagement with the scientific and technological exhibits which the working classes displayed.⁹⁵ There was clearly a literate working class audience for popular science in the mid nineteenth century, and Parallax’s move into the editorial letters pages of newspapers may well have been an attempt to engage with it, or at the very least to use the new language of science to give his theories respectability in the popular imagination. This was an audience that was not just passive in its interest, however. This was an audience ready to engage with the material and to engage in debate, as Parallax was about to find out.

February 22nd’s edition of the same newspaper saw Parallax yet again claiming that he had obtained experimental data in the Liverpool area which proved the non-rotundity of the earth, once more

⁹⁰ B. Bryson, *A Short History of Nearly Everything*, (Broadway Books, 2003), pp. 95-96.

⁹¹ Topham, “The *Mirror of Literature, Amusement and Instruction* and Cheap Miscellanies in Early Nineteenth Century Britain”, in Cantor *et al*, *Science in the Nineteenth-Century Periodical*, p. 41.

⁹² Topham, “The *Mirror of Literature, Amusement and Instruction* and Cheap Miscellanies in Early Nineteenth Century Britain”, in Cantor *et al*, *Science in the Nineteenth-Century Periodical*, pp. 48-49.

⁹³ D. Smith, *Civil Engineering Heritage : London and the Thames Valley*, (Thomas Telford Press, 2001), p. 8.

⁹⁴ J. A. Auerbach, *The Great Exhibition of 1851 : A Nation on Display*, (Yale University Press, 1999), pp. 104-108.

⁹⁵ *The Manchester Examiner*, May 31, 1851, p. 2.

using the language of science and this time also referring to published empirical data, commissioned by the authorities of Liverpool Docks in 1847 by a chartered marine surveyor, as a source for some of his key distance measurements. Parallax here exhibited for the first time his ability to adopt the arguments of his opponents to strengthen his own. However, in that very same issue we find another correspondent, signing himself only as Civil Engineer, taking exception to Parallax's earlier comments. This individual pointed out the inherent unreliability of theodolites even in the hands of trained users, and also noted in any case that a theodolite would be of as much use to Parallax for his purpose as "a pair of grocer's scales" would be to Justus von Liebig in "a minute analysis".⁹⁶ Justus von Liebig was a famous contemporary organic scientist⁹⁷ and his inclusion here shows just how deeply the scientific advances of the day and personalities behind them could become part of the public consciousness. How many respondents to editorial letters these days would cite Watson, Crick, Hawking, Higgs or Dawkins as a matter of course? Parallax is here being chided for bad scientific practice by someone who claims to know it implicitly.

On February 26th, another letter appeared in the same publication, this time from an individual calling themselves Arcturus. This individual quoted observations made by qualified seafarers as returning results which put the lie to Parallax's findings and proved the rotundity of the earth. Arcturus seems to have the opinion that Parallax knew his own argument is ridiculous – he referred to the latter's assertions in his observations that they had taken place at flood tide, which was notoriously high in the area and would distort any and all experimental findings. Parallax, he offered, "ought to have anticipated these objections and explained them away". The fact that he had done no such thing is proof positive of his mission to create intellectual mischief using the language of science. Arcturus concluded with a sarcastic challenge to Parallax, that the latter should make "a pilgrimage to the ends of the earth" and peep over the edge when he gets there, thus freeing up the newspaper columns for "those who are likely to enlighten us."⁹⁸ Arcturus, incidentally, is another hint at how deeply science, in this case astronomy, had leached into the popular imagination – it is the name of a star, one which is 115 times more luminous than our own sun and is relatively close to our own solar system at a distance of 36 light years, the two factors combining to make it the brightest star in the night sky visible solely from the Northern Hemisphere.⁹⁹

⁹⁶ *The Liverpool Mercury*, February 22, 1850, p. 3.

⁹⁷ W. H. Brock, *Justus von Liebig : The Chemical Gatekeeper*, (Cambridge University Press, 1997), passim.

⁹⁸ *The Liverpool Mercury*, February 26, 1850, p. 6.

⁹⁹ Sir P. Moore, *Philip's Guide to Stars and Planets*, (Lomond Books, 2004), p. 132.

The argument continued, as arguments involving Parallax would turn out to do generally. On March 1st, the same newspaper printed a well-meaning letter from someone identifying themselves as Eyes, which urged Parallax to use his own eyes and make good his “capital error”. This letter is neither sarcastic, nor taking exception with the methods used by Parallax. It simply appeals to his common sense. Parallax himself has another letter published in the same edition. He took exception with the letter published previously from Civil Engineer, the author of which he castigated as “not a very civil man”. He went on to yet again take the opportunity to speak the language of science in defence of his “truths”, defending his use of the theodolite and turning the mention of Justus von Liebig against his adversary, responding that “a pair of grocers’ scales” would serve von Liebig’s purpose as well as “a pair of apothecary’s scales” - the tools employed do not differ in principle, he argued, only in level and finery of measurement. He then went on to state that surely if the theodolite was unsuitable for his measurements and was inaccurate, then the Ordnance Survey itself was inaccurate, as the surveyors who compiled it relied on just such an instrument in their work.¹⁰⁰ The debate continued from Dublin, where Parallax had by then moved on to.¹⁰¹

Despite Parallax having departed the area, the debate raged on and, on March 19th, *The Liverpool Mercury* carried a letter from an individual identified only as H. The H letter is significant as we see here the beginnings of a viewpoint emerging in the followers of the debate which is, if not pro-planar earth, at least more open to Parallax’s views and methods than had been apparent previously. H fully acknowledged that the flat earth theorist’s conclusions were “extreme” however it seems that Parallax had given him food for thought – perhaps the shape and dimensions of the earth were not as they had been believed to be and that Parallax’s methods, which were certainly “deserving of attention” may lead to “some important results.” Alas we have no clue as to H’s identity other than the single letter he gives in token of it, however his letter is polite, well phrased and reasonable in tone.¹⁰² This would seem to be someone with certainly at the very least a passing interest in science, who has pondered, or is willing to consider, some fairly profound and fundamental truths about the world around him. H certainly exhibits the mindset that one would expect to find very much in evidence at his local Mechanics’ Institute.

¹⁰⁰ *The Liverpool Mercury*, March 1, 1850, p. 3.

¹⁰¹ *The Liverpool Mercury*, March 12, 1850, p. 6.

¹⁰² *The Liverpool Mercury*, March 19, 1850, p. 6.

The argument raged on into April, in an almost identical vein to that which has already been recounted, when the editors of *The Liverpool Mercury* closed their columns to any further correspondence on the debate¹⁰³. So we have here a lengthy exchange between Parallax and detractors, with the former conducting his argument in scientific language and the latter responding in kind, finding flaws in his findings and reasoning, before Parallax returns with more of the same, using his adversary's examples against them. In doing so, we find other parties drawn into the fray, whether as bystanders offering well-meaning advice, or, intriguingly, as those who seem to be convinced, or partially convinced, by Parallax's approach and the language in which he presents his findings.

September 1851 shows us a truth of Victorian syndicated news reporting which itself bears reporting and analysis – it has relevance as we shall see when Parallax comes into contact with the Devonport Mechanics' Institute. In this month, or perhaps at the end of the month preceding, Parallax wrote a letter to a newspaper named *The North British Mail* in which he yet again propounded his beliefs and provided reports of experiments and observations which supported them. Within days, this story was being reported in numerous newspapers, all over the country, in almost identical wording. London¹⁰⁴, Dublin¹⁰⁵ and Belfast¹⁰⁶ newspapers all carried the line "A writer in *The North British Mail*, who signs himself 'Parallax', has recently revived the ancient belief that the surface of the world is flat." The sentence is identical and is carried in all three examples in what would be termed the "miscellaneous news" columns of each. A point to point comparison on the relevant parts of each example show snippets of news about local, national and international events, with a few overlaps but no identical language, unlike that as used in the Parallax news item. This reporting of identical news stories in newspapers hundreds of miles apart was not unusual; the work of such historians of local newspapers as Hobbs¹⁰⁷ shows that news stories were often copied verbatim from other newspapers, often with no acknowledgement of the original source, and thus stories could spread fairly quickly, sometimes even reported in the exact same words as is the case with our example. This would have suited Parallax's purposes fine – he was determined to share his creed with as many people as possible and the fact that word of his activities had been copied and syndicated between various newspapers in far flung locations across hundreds of miles would have sat well with his

¹⁰³ *The Liverpool Mercury*, April 16, 1850, p. 6.

¹⁰⁴ *The Examiner*, September 6, 1851, p. 11.

¹⁰⁵ *Freeman's Journal and Daily Commercial Advertiser*, September 6, 1851, p. 2.

¹⁰⁶ *The Belfast News-Letter*, September 8, 1851, p. 3.

¹⁰⁷ A. Hobbs, 'When the Provincial Press was the National Press (c. 1836-1900), *The International Journal of Regional and Local Studies*, Series 2 (5:1), Spring 2009, p. 24-30.

design. Study of newspapers can also give us another clue into how Parallax conducted his affairs however, for they can give us some insight into the target audience for each foray into print.

As we have seen, Parallax by 1851 had both been passively reported on in the news media and had actively taken part in the debate through the means of correspondence and counter-correspondence in editor's letters pages. In the case of the former, he was generally reported to be lecturing, to be frequenting Mechanics' Institutes and the facilities used by the working classes for intellectual self-improvement as he did so. In the case of the latter, as we have seen with *The Liverpool Mercury* his audience was more general – that of the readership of the newspapers in which he chose to invite and then conduct debate. As Hobbs notes, *The Liverpool Mercury* boasted a largely middle class readership,¹⁰⁸ a fact known to those who would have read it and a fact that would have been known to Parallax as well. It therefore seems not unreasonable to assume that although he may have chosen to lecture to halls full of working class people, he addressed himself personally to the middle class, traditionally better read, better educated and better mannered, newspaper reader and was not averse to engaging in debate with them. As subsequent events will show, this was perhaps wise, and certainly a great deal more predictable and safer. Different classes, to Parallax it seems, required different tactics, different methodology, different stages and different language. With the working classes, he was the lecturer, the man on the stage or in the space cleared at the front of the room, the focal point of the gathering, set apart from them as he deigned to impart his wisdom to them. With the middle classes, he engaged with them in print, in writing, inviting them into debate on the same ground, as an equal. We shall see more of this theme developing as Parallax reaches Devonport.

As we have seen, news of Parallax's activities had reached Dublin, and it was there where he was to be found practicing in public next. A series of lectures were to be held from September 8th up until September 13th at the Rotundo in the city, where the itinerant flat-earth theorist would publicly expound his beliefs with "numerous Diagrams" and "The Scientific Men of Dublin" were "respectfully challenged to disprove in a fair and honourable fashion" the "numerous facts" which he was going to lay before them. Admission was set at 6d however if one was so inclined, one could reserve a seat for the sum of one shilling.¹⁰⁹ A decent turnout was clearly expected. Parallax's lectures were covered well in the Dublin press, in friendlier terms than elsewhere, as one newspaper

¹⁰⁸ Hobbs, 'Provincial Press', p. 16.

¹⁰⁹ *Freeman's Journal and Daily Commercial Advertiser*, September 9, 1851, p. 1.

review of a lecture stated that his “novel doctrines were broached in good set language and with considerable impressiveness, it is just to state that the audience did not evince any token evidencing their conviction of the truth” of what he had to say.¹¹⁰ Proof positive of “the parallax effect” itself however can be demonstrated by news reports from farther afield, actually reporting on the same lecture. A newspaper in London described the attendance as “scanty” and the lecturer himself “rather fidgety”.¹¹¹ This is not merely though a case of two newspaper reports disagreeing on detail, but rather an example of the difficulties we, as historians, encounter and must overcome when we deal with conflicting reports dealing with the same event. Which report is correct?

Traditional historical thought would have us believe that there is such a thing as objective truth, something that can be measured empirically through the careful close reading of source material and expressed by historians, writing safe in the knowledge that what they are working to achieve – the formal, objective, documentation and explanation of the past – is possible. This argument has a newer, and to some more unsettling, counter-argument, namely the basic tenet of postmodernism, that nothing in the historical record can be proved to be objectively true as the language used in the sources at our disposal is nothing more than language itself, relating to nothing other than the words that it itself is made up of.¹¹² While both arguments have their merits, and both are persuasive, even when denouncing each other, they are neither as incompatible as one might first assume nor as mutually exclusive as the hysterical shriekings of fundamentalists on either side of the debate would otherwise convince us. Objective truth may not exist, but history endures as a valid field of study, reconstructing past events using source materials, with new mindfulness of the limitations of those sources, for they are the literary compositions of individuals with wants and needs and hopes and fears and biases and prejudices and agendas; they are the cultural ephemerae left behind by real human beings, each with their own viewpoint which is just as valid as any other, and with their own individual recollection of events which is just as likely to be accurate or flawed as any other. So which of our two reports is correct? The answer is that they both are. As for their treatment of our wandering flat-earth lecturer, at any rate the lectures in Dublin seemed well enough received to result in an extension of Parallax’s sojourn there, as an extra week of lectures were announced in the local press.¹¹³

¹¹⁰ *Freeman’s Journal and Daily Commercial Advertiser*, September 9, 1851, p. 3.

¹¹¹ *The Morning Post*, September 10, 1851, p. 7.

¹¹² R. J. Evans, *In Defence of History*, (Granta, 2000), pp. 2-4.

¹¹³ *Freeman’s Journal and Daily Commercial Advertiser*, September 17, 1851. p. 1.

June 1852 found Parallax in Manchester, reverting to his old pattern of touring Mechanics' Institutes. The local press gave a lengthy review of three lectures he had delivered there the week before, to an incredulous audience which at one point roundly burst out laughing at his answers to their pointed questions and seemed, at the end of the lectures, to be "confirmed, rather than shaken in" the round earth theory.¹¹⁴ He remained in Manchester for several weeks, even engaging in a public debate, again at the Mechanics' Institute there, with an astronomer named Mr Beswick who was described as being the author of "several astronomical works". The local press once again stated that Parallax (or Mr Parallax as the article on this occasion dubbed him) won no converts and that the "palpable absurdity" of what he had to say was obvious to all. It was, however, noted that he claimed victory in the debate, just as readily as his opponent did.¹¹⁵ This would become a hallmark of his approach when it came to how he conducted himself in public debates and exhibitions, as we shall see.

In August 1852, the town of Preston in Lancashire had no Mechanics' Institute as such, although names could be deceiving, as institutions which had the same "mission" and same demographic as Mechanics' Institutes were also fairly commonplace.¹¹⁶ Preston was host to one such place, an Institution for the Diffusion of Useful Knowledge, which had opened its doors in 1828, and had experienced the same ups and downs due to the overriding economic climate as we have seen elsewhere. Contemporary writers made direct correlations between this organisation - with its reading rooms, lessons, lecture hall and well-stocked library - and the Mechanics' Institute movement.¹¹⁷ Parallax is reported as having lectured at this place in the first week of the month of August, and is noted by a local newspaper as being a "few centuries too late" with his teachings. The paper in question does however show a concern that, if Parallax is shown to have made any success with his efforts, then the countryside would soon be awash with imitators, preaching that the moon is made of "green cheese". It goes on to state that such superstitions and pseudosciences as astrology, witchcraft and alchemy would be reborn and given the respectability afforded academic subjects. Most strikingly, it notes that Mechanics' Institutes would soon take up teaching lessons in augury and divination.¹¹⁸ On the face of it, this seemingly off the cuff comment would appear to speak volumes for the real fears of a middle class when it comes to working class education and

¹¹⁴ *Manchester Times*, July 3, 1852, p. 1.

¹¹⁵ *Manchester Times*, July 17, 1852, p. 4. I have been unable to track down any works on astronomy by any writer named Beswick who might have been active at the time.

¹¹⁶ Kelly, *Birkbeck*, p. 212.

¹¹⁷ C. Hardwick, *History of the Borough of Preston and its Environs in the County of Lancaster*, (Worthington & Co., 1858), pp. 449-451.

¹¹⁸ *The Preston Guardian*, August 7, 1852, p. 2.

intellectual betterment going astray at the hands of an unscrupulous popular agitator. This seems to something beyond mere snobbery. There is, after all, no such fear alluded to of Parallax and his hypothetical imitators storming the universities. Rather, it is the Mechanics' Institutes which are seen, through such a lens, as a potential breeding ground for crackpot ideas and a return to intellectual and cultural ignorance. In case we doubt the middle class credentials and concerns of this source (although there was hardly a mass circulation newspaper of this period which was stridently working class in tone) we need look no further than an article on the same page. Labelled "Infant Mortality", it is at great pains to note that, of the 22 children buried that week in the parish, out of 26 funerals in all, not one had their interment charged to the ratepayers of the parish, a fact referred to as "remarkable" and "unprecedented" in such a large community, with a large working class population.¹¹⁹ The causes of such a murderously and tragically high rate of child mortality, 16 of the children being under the age of one year, and any ghost of an idea for a solution to alleviate the situation, all took second place to relief that the parish had not been burdened with a single penny in costs. Nationally, the rate of child mortality for the whole year 1852 was higher than average.¹²⁰ This was due to an upsurge, certainly as opposed to the immediately preceding years, in infectious diseases commonly associated with childhood – scarlet fever, smallpox among unvaccinated infants, diarrhoea, measles, whooping cough and croup.¹²¹ Preston, then, in this specific week, was certainly – not to mention tragically – all too typical.

Preston saw calls for the potential threat of Parallax to be negated. A correspondent, claiming the name Tyro, wrote to a local newspaper, urging a local soon-to-retired astronomer named Holden (this, it transpires, was Moses Holden, who lived on Jordan Street in the town¹²²) to take on Parallax and his ideas in public so that "the youthful mind may not be perverted by false impressions". Parallax, noted the correspondent, was intelligent and eloquent and there was a real danger that he might take advantage of public ignorance of astronomical theory.¹²³ Parallax, it seems, was becoming less of a figure of fun as the time passed and his experience and technique of public lectures grew and developed – he was becoming perceived as something of a threat in certain quarters.

¹¹⁹ *The Preston Guardian*, August 7, 1852, p. 2.

¹²⁰ *Fifteenth Annual Report of the Registrar-General, 1852 (Registrar-General's edition)*, (British Parliamentary Publications, 1855), p. ix

¹²¹ *Fifteenth Annual Report of the Registrar-General, 1852 (Registrar-General's edition)*, (British Parliamentary Publications, 1855), p. 65.

¹²² Hardwick, *Borough of Preston*, p. 426.

¹²³ *The Preston Guardian*, October 9, 1852, p. 2.

It does not seem that Parallax took up Tyro's challenge as we next hear of him in June of 1854, in Leicester, where two lectures had been delivered in the town in such a manner to prompt a local newspaper to note his "deep learning".¹²⁴ Although little else appears in the local press, there are hints later in the year that Parallax found a welcome ear in Leicester, as a lecture by a local astronomer named Brewin is mentioned, which 'alluded to the fallacies of Parallax and removed many of the erroneous impressions produced by him'.¹²⁵ Needless to say, an audience that has completely rejected a hypothesis does not need to then have its "erroneous impressions" purged from their collective memory and understanding nearly six months later. The article goes on to further note that Brewin's lecture was well attended by, and "listened to with marked attention" by, the local working class people with an interest in science. Again we have this hint of the working classes being vulnerable to the "fallacies" of Parallax, and this time we have a glimpse almost of damage limitation after the event, of things being put to rights in the heads of working people by the upholders of scientific orthodoxy.

One is struck by the gaps in the record, as Parallax moves from place to place, months passing between lecture series in towns and cities. An item from a London newspaper in the summer of 1855 might shed light on these gaps. It is neither a report of a lecture, nor a letter to the editor attempting to promote debate, rather it is an advertisement. We have seen how Parallax, prior to his lecture tours, devoted some of his time to peddling quack cures for aging, having claimed to have discovered the secret of eternal life. It is no surprise, therefore, to find a scientific paper, purporting to have been written by a physician, being peddled for 2d and a stamped addressed envelope, a paper titled "Death Not a Necessity" in which the scientific proof of life everlasting is supposedly contained. The author's name? Parallax, his address given as Upper North Place, Gray's Inn Road, London.¹²⁶ Although the word Parallax is a scientific term, and it is just possible that this may not in fact be the individual we have been following, the evidence would seem to make such a supposition unlikely – the supposed scientific answer to the question of eternal life, being sold by someone claiming to be a physician, who calls himself Parallax. This would certainly appear to be Samuel Birley Rowbotham himself, and it shows that he was not averse to reopening old revenue streams in between lecture tours.

¹²⁴ *The Leicester Chronicle; or, Commercial and Agricultural Advertiser*, June 3, 1854, p. 3.

¹²⁵ *The Leicester Chronicle; or, Commercial and Agricultural Advertiser*, December 2, 1854, p. 3.

¹²⁶ *Reynold's Newspaper*, July 22, 1855, p. 8.

While Parallax rested between circuits of the country, his name was far from forgotten. This perhaps showed that he and his ideas had started to enter the popular imagination in a lasting way, at least in some places. In April of 1856, a Belfast newspaper, commentating on another scientific controversy altogether, namely a disagreement about the proper motion of the Moon, saw fit to remind its readers of the escapades of Parallax, “who went about the world lecturing to prove that the earth is flat”. In this context, Parallax was being used as a similar rejecter of plain, simple and obvious truths. It is also notable that his name is introduced as a “historical parallel”¹²⁷, indicating that he was no longer being encountered, or at least no longer being encountered by a Belfast reading audience, actively in the present. His were ideas that had come and gone, leaving only a precedent where scientific orthodoxy had been challenged by ill-informed error and had emerged victorious. Within days, the same story was being recounted verbatim in Bristol.¹²⁸ Yet again we are faced with a phenomenon we have encountered before, namely the dissemination of news content on a verbatim basis across hundreds of miles within the space of a few days. According to Hobbs this was a nationwide phenomenon which gradually went into decline by the 1870s with the advent of the first true news syndication services.¹²⁹ Given that surviving archives of nineteenth century newspapers are not always complete, there is no reason to doubt that the name Parallax was spread across much of the reading country by this article. It was fame, or rather infamy, of a sort, and Parallax, as we shall see, had become anything but a figure of the past.

Hobbs notes in his recent work that the phenomenon of news article syndication and newspaper content sharing is currently inadequately addressed prior to 1870 and would benefit from further study.¹³⁰ It would be of benefit to the field then, and in the interests of historical study generally, to venture an example of the phenomenon in action so that a provisional model of such news and content dissemination can be constructed. As we already have an example explicitly related to Parallax, we shall use this in our modelling process. Our example from September 1851 shows the news of Parallax’s letter to *The North British Mail* – a Scottish newspaper that competed with the popular Glasgow based *North British Daily Mail*¹³¹ – spreading across the British Isles fairly quickly. News of the Parallax letter originated in Scotland and from there spread to London first, then Dublin

¹²⁷ *The Belfast News-letter*, April 15, 1856, p. 4.

¹²⁸ *The Bristol Mercury*, April 19, 1856, p. 2.

¹²⁹ Hobbs, ‘Provincial Press’, p. 24.

¹³⁰ Hobbs, ‘Provincial Press’, pp. 24-27.

¹³¹ R.M.C Cowan, *The Newspaper in Scotland: A Study of its First Expansion, 1816-1860*, (Outram & Co., 1946), p. 364.

and then Belfast, all within a week of each other. It then continued to be reported in London as news a few days later¹³² and news even reached Truro by the middle of the month.¹³³ The relative lateness of the report surfacing in Truro is interesting. Although a significant wired telegraph network, often stretching alongside railway lines, was present in Britain by 1851 and had been for some time, even playing a role in disseminating news of major events to other parts of the country¹³⁴, it would have been unlikely to have been used to communicate such small snippets of relatively obscure and irrelevant news – such news as there was typically concerned politics and the great affairs of state.¹³⁵ The delay in reaching Truro is perhaps therefore understandable when we propose the following model of news dissemination circa 1851; The story originates in a port city, Glasgow in this instance, which has, by this time, excellent rail¹³⁶ and sea links¹³⁷ with the rest of Britain as well as beyond. At which point, given the short snippet which appears elsewhere verbatim, it is almost certainly transcribed, perhaps by another newspaper which has not survived in archival format, before being transported physically either by rail (to London) or by sea (to Dublin and Belfast) as ephemera. The delay of the story's entry into Cornwall is thus explained by the sheer difficulty of industrial scale transportation into the county at this time – until the completion of Brunel's masterpiece Royal Albert Bridge in 1859, there was no rail link between Cornwall and the rest of the country.¹³⁸ Speed of transmission of news, as well as transmission of the physical trappings of a steadily industrialising way of life, was thus maintained at pre-industrial levels; even the comparatively easy trip from Venice to Milan in pre-industrial times took an average of three days to complete, and is around half the distance between London and Truro.¹³⁹ News dissemination and content syndication, at least of the peripheral and minor kind, was thus carried out by physical transport of printed matter from place to place, rather than transmitted by telegraph. Major cities were linked in a very real network for disseminating minor news articles verbatim and this is how, in the 1850s, before there were railway services into Cornwall and before there was widespread affordable commercial telegraph or even wireless communication networks, news such as that of Parallax's ideas could spread from place to place and appear in newspapers in articles which mirrored each other word for word despite being printed hundreds of miles apart. Ideas themselves would travel just as slowly, leeching into rural areas such as Cornwall a considerable time after they had become accepted in the cities. We might thus expect to find a less scientifically sophisticated

¹³² *Lloyds Weekly Newspaper*, September 7, 1851, p. 8.

¹³³ *The Royal Cornwall Gazette, Falmouth Packet and General Advertiser*, September 12, 1851, p. 7.

¹³⁴ K.G. Beauchamp, *History of Telegraphy*, (Institution of Engineering and Technology Press, 2001), pp. 69-73.

¹³⁵ Beauchamp, *Telegraphy*, p. 75.

¹³⁶ W.A.C Smith and P. Anderson, *An Illustrated History of Glasgow's Railways*, (Irwell Press, 1993), passim.

¹³⁷ J. Pagan, *Sketch of the History of Glasgow*, (Robert Stuart & co., 1847), p. 98.

¹³⁸ D. Beckitt, *Brunel's Britain*, (David & Charles, 2006), p. 109.

¹³⁹ T.A. Morris, *Europe and England in the Sixteenth Century*, (Routledge, 1998), p. 17.

and less educated audience for Parallax's ideas in Cornwall. There is evidence to bear this out, as we shall see in Chapter Three. What of Parallax himself though?

In May 1856, Parallax was back, relatively close to his correspondence address at Gray's Inn, when he surfaced in Stratford, Essex. A newspaper article, for the benefit of a readership which might therefore be assumed to be lower in class than certain other newspapers we have already encountered, was at great pains to point out that Parallax was an assumed name as well as briefly describing his flat-earth doctrine and informing its readership that he would be giving a series of lectures on the topic at the Literary Institution on Stratford High Street.¹⁴⁰ Although lurid headlines are not necessarily the preserve of the lower class reading public, the stereotypical view of "gutter press" fodder being for a lower brow reading audience comes from a valid social and cultural truth which transcends the centuries. This particular newspaper featured local crime stories and court reports with almost every second paragraph, and together with the stating of the obvious – that Parallax was an assumed name (this seems to be the only newspaper which ever made such an explicit statement, while the name was also enclosed in inverted commas for the avoidance of any doubt on the matter) it therefore seems reasonable to assume that this particular publication was aimed at a lower class market. The Literary Institution, incidentally, may have been connected to the Stratford Mechanics' Institute, which officially closed its doors in 1848 after only two years of existence. The neighbouring Institute in West Ham endured well into the twentieth century¹⁴¹, proving that survival of specific Institutes was often down to individual circumstances on a level below even that which might be termed geographically local. One might as well term it microlocal. This is yet another example of the research gap which exists regarding Mechanics' Institutes, namely why some survived for many years while others a few miles away barely lasted any time at all.

September of the same year found Parallax in Norfolk, Norwich to be precise, where he at first found a sympathetic ear. Allusion was made to lectures elsewhere, showing that there was an awareness there of his itinerant nature. A local newspaper covered his lectures, noted that he made his arguments well and in scientific, authoritative terms and was impressed by his willingness to repeat his experiments before anyone who cared to step forward. The newspaper in question explicitly stated, having heard Parallax's arguments, that either he was completely correct or that all known theories of optical science were wrong. In an attempt to prove the facts of the matter either way,

¹⁴⁰ *The Essex Standard, and General Advertiser for the Eastern Counties*, May 23, 1856, p. 2.

¹⁴¹ Kelly, *Birkbeck*, p. 308.

the newspaper in question invited contributions from “some scientific reader” who could settle the issue for the sake of good order.¹⁴² Why was Parallax given, at first contact at least, a more sympathetic hearing in East Anglia than elsewhere? Although there are no obvious hard and fast reasons, there are some intriguing influences which might build a convincing circumstantial argument as to why this might have been the case. Firstly, geography. Parallax, as we have seen, spent some time in the Cambridgeshire fens, which is on the western marches of East Anglia. This is close enough for there to have been a “local” flavour to Parallax, a sort of recognition of a shared background. Second, although a devout region which was at the time, on the face of it, a bastion of the established church and time-honoured order, there had been a growth of non-conformity and political radicalisation in the area in the years leading up to Parallax’s visit.¹⁴³ People were therefore, especially in the larger towns and cities, showing a tendency to question things and to not take established truths and theories at face value.

Within the week, the same newspaper was denouncing Parallax as a hoaxer, having been informed by a nameless individual that Parallax’s claimed observations of the flat nature of the earth’s surface were anything but.¹⁴⁴ This scepticism seemed to have percolated down to the audiences at the lectures, as the same paper went on to detail an incident whereby Parallax, seemingly too evasive in his answers to pertinent questions, was heckled and hissed which caused him to lose his temper with them.¹⁴⁵ Despite this, Parallax stayed on in the area, and accepted a public challenge to put his theories to the test at Lowestoft that November. The defenders of the Newtonian theory of a round earth were led by a lecturer named Newbegin, while a panel of gentlemen observers were appointed after being agreed upon by both sides. It appears Parallax had converted at least one local as a man by the name of Sanderson became very vocal upon the inevitable refutation of Parallax’s theory by means of observational science, doing his utmost to explain the obvious rotundity of the earth through “unintelligible” arguments to the contrary. At a public meeting following the expedition to Lowestoft, Parallax seemed more concerned with his meal and hotel expenses than with the refutation of his theory. When an attendee wagered one pound that Parallax’s theories

¹⁴² *The Bury and Norwich Post, and Suffolk Herald*, October 1, 1856, p. 6.

¹⁴³ W. M. Jacob, ‘Church and Society in Norfolk, 1700-1800’, in *The National Church in Perspective: The Church of England and the Regions, 1660-1800*, eds. J. Gregory & J. S. Chamberlain, (Boydell Press, 2003), p. 196.

¹⁴⁴ *The Bury and Norwich Post, and Suffolk Herald*, October 8, 1856, p. 3.

¹⁴⁵ *The Bury and Norwich Post, and Suffolk Herald*, October 29, 1856, p. 3.

could be exploded by the day's observations read in conjunction with a map, the flat earth lecturer accepted. However, as the map was being unrolled, Parallax sneaked out of the lecture theatre.¹⁴⁶

In light of the incident just recounted, it becomes prudent to consider the question of Parallax's motivations. Was he sincere in his beliefs or was he motivated by financial gain? Firstly, it is helpful to remember that the only account of the incident just described has been from the viewpoint of a newspaper which has, from a position of sceptical open-mindedness, switched to a position of declaring Parallax's entire agenda to be a hoax. It is therefore not an impartial source. However, given that we already have evidence that Parallax spent time between lecture tours pedalling aging remedies and the secret of eternal life, the question is a valid one. There is a strong suggestion here that Parallax was motivated, at least partly, by financial gain. However that does not make his adherence to the flat earth theory insincere. As we shall see in the next chapter, he held to that belief for the rest of his life, which if nothing else speaks of the depth of his regard for it, and of the sincerity of it, as much as that can be ascertained within the limits imposed upon us by postmodernist influenced reading of the relevant sources.

Parallax sneaked back onto the lecture circuit in the summer of 1858, over eighteen months after his poor experience in East Anglia. July of that year found him back on familiar ground, revisiting Leicester. As has been noted previously, there were hints of some success for his theories there, and so after an interval of four years, Parallax returned to the city. Would his previous implied success be repeated? He advertised his lecture series, and the local news media noted his return with a simple statement of time and venue.¹⁴⁷ Subsequent coverage noted his "evasive and incoherent" responses to questioning on his theories, but his Leicester audiences gave him a fair and attentive hearing regardless. As had become the norm for him, Parallax had challenged the audience to tests of observation to prove the truth of his theories, but the challenge had been declined.¹⁴⁸ There was no further report of his activities, and no hint this time of any counter-lecturing having taken place. Common sense, it seemed, had won the day in Leicester. Again, there was following this a sustained absence from the record, save only for a fleeting reference in Birmingham, where in May 1860 Parallax was mentioned in the context of the past, as he had been before, as a newspaper editorial

¹⁴⁶ *The Bury and Norwich Post, and Suffolk Herald*, November 5, 1856, p. 3.

¹⁴⁷ *The Leicester Chronicle; or, Commercial and Agricultural Advertiser*, July 24, 1858, p. 2-3.

¹⁴⁸ *The Leicester Chronicle; or, Commercial and Agricultural Advertiser*, July 31, 1858, p. 3.

attempted to refute a newer, equally – to the writer’s mind, at any rate – preposterous theory.¹⁴⁹ He was yet again being written off as a quirk of history, whose time had come and gone, yet whose infamy had spread beyond the immediate locales of his known lecture tours.

This latest hiatus from the business of completing lecture tours can perhaps be explained better than others. Parallax, it would seem, had other things in mind. In July 1861, he – at the age of 45 – married the 16 year old daughter of his laundry woman¹⁵⁰ and, full of the joys of his new found marital status, embarked on a series of lectures in the Bath area.¹⁵¹ From there, he moved on to Greenwich where, in the shadow of no lesser institution than the Royal Observatory itself, he commenced a series of lectures which, in terms of reception and even converts, was to be by far his most successful to date, prompting one local newspaper to remark that he was “making his hearers disgusted with the Newtonian... theory” and to make a direct appeal to the great and the good of the Royal Observatory. The same newspaper also noted that Parallax was turning people all over England to his cause.¹⁵² While it cannot be doubted that Parallax had an impact in Greenwich – one of his converts there, a William Carpenter, turned out to be a lifelong devotee of the flat earth cause¹⁵³ - it appears to have been overstated, and with good reason. Throughout the news editorial already quoted, there is a great sense of injured local pride; that the national hero Newton was having his theories questioned and contested publicly was bad enough, but in the shadow of the world famous Greenwich Royal Observatory itself? This would have been unthinkable, would have caused tremendous embarrassment – not to mention real fear of a return to ignorance among the less educated classes as we have seen elsewhere – and would have had to have been countered in the strongest possible terms, and this is what had happened.

Buoyed by his successes in Greenwich, with theories and methods of delivering them which had been honed on the road over a number of years and in environments ranging from the sympathetic to the downright hostile, Parallax embarked on yet another lecture tour. Progressing through first

¹⁴⁹ *Birmingham Daily Post*, May 29, 1860, p. 3.

¹⁵⁰ Garwood, *Flat Earth*, p. 50.

¹⁵¹ *The Bristol Mercury*, July 13, 1861, p. 4.

¹⁵² *Greenwich Free Press*, May 19, 1862, p. 3.

¹⁵³ Garwood, *Flat Earth*, pp. 52, 163.

Portsmouth and then Gosport¹⁵⁴, he then made his way further southwest in the autumn of 1864. The Battle of Plymouth Hoe was about to commence.

¹⁵⁴ Garwood, *Flat Earth*, p. 54.

Chapter Three

The Battle of Plymouth Hoe was much more than an intellectual duel between a holder of heterodox cosmological belief and his more mainstream detractors. It was the culmination, for Parallax, of a number of years spent on the road, honing his art in the lecture halls of institutions all over the British Isles and in the letters pages of numerous newspapers. It was also, for his intellectual adversaries, a chance to discredit him publicly, and hopefully completely, for there was cause for them to wish to do so – as we shall see, there were valid reasons for the learned of Plymouth and Devonport to fear this wandering lecturer.

When Parallax entered the Westcountry in the autumn of 1864, he did so on the crest of a wave of growing infamy and influence. Infamy, for as we have seen his name had entered the collective frame of reference of the popular press to the point where his activities were taken as a fiducial point for any new avant-garde pseudoscientific theory which might emerge. Influence, because as has been shown, he left enough of a lasting impression in some places for a variety of nineteenth century “deprogramming” by expert public lecture to become necessary, while in other locations he won converts to his ideas. Many accounts note that Parallax was an impressive debater, engaging the learned in discussion while demonstrating his key ideas in public lectures which, as the years passed, began to bear fruit. His years of lecture tours in often hostile environments gave him a way with words which was impressive even by the standards of the period.

Take his book of 1865, for example, which bore the title *Zetetic Astronomy: Earth Not a Globe!* It is a carefully worded exposition of his theories and methodology using scientific language fused with everyday example throughout. His term for his version of the scientific method – Zetetic – stems from the Greek verb *zeteo*, which means “to search or examine – to proceed only by inquiry”. He notes the worth of such a system, as opposed to dogma which dominates mainstream science, and gives examples of his method in action: the law courts, he argues, use a Zetetic method in their application of logic to evidence in order to reach a just verdict.¹⁵⁵ He quotes Copernicus and Newton, uses diagrams, tables of figures and equations, and presents the reader with what is on any and

¹⁵⁵ S.B. Rowbotham (Writing as Parallax), *Zetetic Astronomy: Earth Not a Globe! An Experimental Inquiry into the True Figure of the Earth: Proving it a Plane, Without Axial or Orbital Motion; and the Only Material World in the Universe!*, (Hayward, 1865), pp. 3-6.

every identifiable level, a scientific treatise to be read at the same table as anything that a mainstream astronomer, geographer or cosmologist would have to offer. For good measure, he even quotes an American hot air balloonist, recounting their observations of a seemingly level horizon from a great elevation and using it as evidence to support his theories.¹⁵⁶ For every proof of the rotundity of the earth, he has a refutation, which he then turns into support for his own world view. A prime example is the phenomenon of Polaris, the pole star in the Northern Hemisphere, being at times visible even from the Tropic of Capricorn – surely impossible if the earth were in fact a globe.¹⁵⁷ For every astronomical phenomenon, from the seasons, to eclipses, to tides, to the apparent path of the sun and positions of the stars and planets in the night sky, he has an explanation that fits better with his own theory than that of the Newtonian system, and he uses the data and observations of his intellectual adversaries against them.¹⁵⁸ The final chapter, meanwhile, turns to theology, to the support for his theories which he feels lies within the Bible – which he believes to be the infallible word of God. Numerous quotes from scripture affirm his belief that the flat earth system is the truth, the divinely ordained nature of the Cosmos.¹⁵⁹ The saving of the explicitly biblical material until the end of the book is notable, and bears a similar pattern to what we shall see of his lecture programme, where the sacred arguments follow the scientific. The biblical fundamentalism expressed at the end feels almost apologetic, as if Parallax is reluctant to introduce it too early, preferring to win converts through scientific argument rather than religious preaching. By the 1860s, the syllabus of Parallax's lectures mapped against the chapters of this book exactly, the chapter titles following the course outline as featured in one newspaper article concerning his teaching,¹⁶⁰ and it is clear from this that the book is a companion to the material covered in the lectures. We can draw yet more parallels with Devonport's Mr Burnet here, to add to those discussed in Chapter One. As Burnet's manifesto was a mix of social science, moral preaching and religious fervour, so the written work of Parallax combined experimental science and religious fundamentalism. Both sought to appeal to the reader using a mixture of faith and reason.

Parallax progressed across the country, from city to city and from region to region, teaching and preaching his mixture of inquisitive scientific experimentalism and biblical fundamentalism, inciting fury from some and winning hearts and minds with others. It is little wonder the exasperated newspaper editor in Greenwich called for aid from the very pinnacle of the astronomical

¹⁵⁶ Parallax, *Zetetic Astronomy*, p. 18.

¹⁵⁷ Parallax, *Zetetic Astronomy*, p. 41.

¹⁵⁸ Parallax, *Zetetic Astronomy*, passim.

¹⁵⁹ Parallax, *Zetetic Astronomy*, pp. 176-221.

¹⁶⁰ *Isle of Wight Observer*, April 9, 1864, p. 2.

establishment – this kind of teaching, especially when it won converts, was dangerous for the existing order of things. This danger took five forms and we shall consider each in turn.

Firstly, Parallax represented a *cultural* threat. The mid-nineteenth century was a culture based very much on identity and reputation, the former perhaps for the first real meaningful time in modern British history. Identity had taken on new importance, particularly when applied within the legal framework of the state, the first United Kingdom census operated using modern or near-modern methodology having been conducted in 1841.¹⁶¹ Compulsory civil registration of births, marriages and deaths had been introduced onto the statute books in England and Wales a few years previously and added a new formality to the bureaucratic documentary history of the individual.¹⁶² We therefore see a new, statutorily recognised and legally enforceable emphasis on individual identity during this period. Parallax, however, chose to hide his identity behind a pseudonym, at a time when the concept of identity was moving in the opposite direction, that of firmness and clarity.

Tied up with identity is the concept of reputation. Legal records now bore an individual's name but that individual inhabited a culture where their name, for good or ill, meant something and went a long, long way towards determining their fortunes. Society – and thus individuals – placed inestimable value on reputation.¹⁶³ If one is only as good as one's name and one withholds that name then one is giving others cause for concern. Reputation in the nineteenth century, and the threat of diminishing of it, or the loss of it altogether, was a powerful and influential thing and it was dependant on *name*, on discernible *identity*. What recourse can be had against he who bears no real name? Parallax was thus at odds with the cultural norms of his time, travelling the country, known only by his pseudonym, his true identity kept a closely guarded secret.

The cultural threat posed by Parallax is closely related to the concept of *social* threat. A man without a true name is outside of the social order, beyond position and beyond class. Obviously someone who was equally able to debate with the educated as well as minister to the educational needs he saw in the lower classes, Parallax could be from any social background whatsoever – his audience

¹⁶¹ E.A. Wrigley, R.S Schofield, *The Population History of England, 1541-1871: A Reconstruction*, (Cambridge University Press, 1989), p. 109.

¹⁶² R. Brown, *Society and Economy in Modern Britain, 1700-1850*, (Routledge, 1991), p. 19.

¹⁶³ D.S. Landes, J. Mokyr and W. Baumol, *The Invention of Enterprise: Entrepreneurship from Ancient Mesopotamia to Modern Times*, (Princeton University Press, 2010), p. 216.

simply did not know for sure. In turn, his teachings sought to turn the existing scientific order upside down in the minds of his audience, and if one fundamental set of facts about the world can change, what else can? Parallax's lecture tours were not greatly removed in time from the tumults of 1848, when revolution swept Europe from "the Atlantic coast to the Carpathians, from the Mediterranean to the Baltic"¹⁶⁴ and England itself had enjoyed a year free from agitation and restlessness courtesy of radicalised urban movements seeking to use events on the continent as an inspiration and a guide. It is down to the fact that England of the time was among the most advanced societies in terms of social justice in Western Europe that there was no revolution there.¹⁶⁵ Lack of upheaval of the existing social order, and *fear* of this upheaval are two different things however, as continued radical politics and continued establishment unease of such politics far outlived the late 1840s, as punitive legal sanctions taken against the popular radical political press can and does show.¹⁶⁶ Parallax also had, it is to be remembered, connections to the radical Owenite social reform movement, and there is an undercurrent of a social reform agenda detectable in his teachings. He seeks to make knowledge of the "true" condition of the cosmos available to all, to bring understanding of the universe out from the halls of the Royal Observatory and such places, into the streets and, as the press in Greenwich complained, even into the taverns.¹⁶⁷ The association of taverns, and thus drunkenness, with Parallax's teachings is notable here – this was the era of the Temperance movement, where the drunken, filthy, poverty stricken pauper haunted the imagination of the learned and was all too real.¹⁶⁸

The next threat was an *intellectual* threat. We have seen how Newton was venerated in an era that held his achievements up as an example of what the English scientific and intellectual mind could devise and imagine. This culture of awareness of advances filtered down to the working classes via such means as Mechanics' Institutes as we have already seen, in an era in which what schooling there was for the poor working or impoverished classes was inconsistent, sporadic and often considered a distraction from the long working hours brought by industrialisation and the rise of the factory as a workplace.¹⁶⁹ Such knowledge as there was for the lower orders was rare and, in the

¹⁶⁴ J. Sperber, *The European Revolutions, 1848-1851 (Second Edition)*, (Cambridge University Press, 2005), p. 3.

¹⁶⁵ J. Saville, *1848: The British State and the Chartist Movement*, (Cambridge University Press, 1990), p. 21-22.

¹⁶⁶ E. Royle, *Radicalists, Secularists and Republicans: Popular Freethought in Britain, 1866-1915*, (Manchester University Press, 1980), p. 266.

¹⁶⁷ *Greenwich Free Press*, May 11, 1861, p. 3.

¹⁶⁸ A.S. Wohl, *Endangered Lives: Public Health in Victorian Britain*, (Taylor & Francis, 1984), p. 60.

¹⁶⁹ M. Sanderson, *Education, Economic Change and Society in England, 1780-1870 (Second Edition)*, (Cambridge University Press, 1995), p. 1-12.

cases of Mechanics' Institutes, subject to control (or attempted control) by social betters¹⁷⁰ for fear of the advent of the kind of "violent revolutionary club" reported to have formed in the Uxbridge Mechanics' Institute by one correspondent.¹⁷¹ Parallax brought freedom from that control and a reversal of the advancement of knowledge over the preceding centuries, in favour of a position often attacked by his intellectual adversaries as hailing from the darker reaches of antiquity, as we have seen. Using the language of science to overturn science's advances, playing to often poorly and inconsistently educated audiences – made of a mixture of relatively sophisticated mechanics or better, and other workers more ignorant of elementary facts – Parallax posed a danger to the existing intellectual order of things, in some places providing education and enlightenment according to his creed where little existed. A little knowledge could be a dangerous thing and erroneous, potentially socially destructive knowledge was the most dangerous of all.

Parallax also constituted a *religious* threat. It is telling that his theories, while using scientific language to do so, were at odds with the teachings propounded by such luminaries in the field of astronomical studies as Copernicus and Galileo¹⁷² and it is notable that he went further and utilised scripture to further attack these ideas. These scientists had fallen foul of the Papal Inquisition for their ideas, which threatened the primacy of planet earth as God's most precious creation at the heart of the cosmos itself.¹⁷³ To take the stage and rail against them was to take the side of dogmatic unreformed late medieval Catholicism, and in a nation where the Anglican communion held sway, this was unwelcome. As Denis Paz eloquently states, "Anti-Catholicism was an integral part of what it meant to be a Victorian".¹⁷⁴ As we shall see, Parallax was not just implicitly linked with militant Catholicism but was in fact explicitly accused of being nothing less than a Jesuit spy. This kind of rhetoric could make people in general very nervous.¹⁷⁵ Parallax was therefore not just a danger to the fate of the minds of his audience – his teachings posed a very real supernatural threat to their very souls. Religion was often forbidden from being discussed in Mechanics' Institutes for its potential as a flashpoint.

¹⁷⁰ Rose, *Intellectual Life*, p. 65.

¹⁷¹ Rose, *Intellectual Life*, p. 63.

¹⁷² Garwood, *Flat Earth*, p. 46.

¹⁷³ M.C. Thomsett, *The Inquisition: A History*, (McFarland, 2010), pp. 217-229.

¹⁷⁴ D.G. Paz, *Popular Anti-Catholicism in Mid-Victorian England*, (Stanford University Press, 1992), p. 299.

¹⁷⁵ Paz, *Popular Anti-Catholicism*, pp. 2, 162.

Lastly, closely linked to religious threat there is a generalised *threat of the past*. England was by Parallax's time living in the era where the Whig theory of history – what Fulbrook terms a metanarrative - held sway in the consciousness of the learned.¹⁷⁶ Parallax's epoch, the Whigs maintained, was the culmination of all progress and the crowning glory of all human invention and endeavour. How could the past illuminate the present when the latter represented perfection and the former was an often error filled process? Humankind had outgrown the past, had put aside childish things, and was now basking in the glorious light of utopia at the pinnacle of all progress, whether social or political, whether technological, cosmological, rational or scientific. Any threat to this world view was thus a threat from the past. Parallax's methods were even the methods of the past – he wandered from town to town like a fusion of medieval minstrel and itinerant non-conformist preacher, announcing his creed with a mix of Biblical fundamentalism and scientific experimentalism that had a hint of the theatrical about it, whether responding to challenges from the floor with the bluster or the quick witted retort of the seasoned music hall comic, or else extinguishing the lights and sneaking away like a villain from an old stage play. He plied his trade on the cusp of traditional oral culture and the industrialised spread of mass market, mass consumption, information – the latter was the stuff of the contemporary age, the former was the stuff of a passing era which flew in the face of progress, and which posed a threat to the modern way of conducting business.

When we consider Parallax in the light of these threats we begin to understand why the reaction to him became more hysterical and demanding of urgent action as his infamy and the capacity to win converts grew. We begin to see why the reaction which awaited him in the westcountry built to be more extreme than had been experienced anywhere, and why the events which then transpired were so remarkable. It is only in the context of the fear which his ideas generated, in the context of the threats he personified, that we can truly begin to understand the Battle of Plymouth Hoe.

The opening salvo of the Battle was reported in the pages of the *Western Daily Mercury* on September 27th 1864. This was the edition which reported on Parallax's first lecture in Plymouth, an event which took place in the Athenaeum building. There were no seats left to be had when the lecture commenced, such was the interest in the spectacle. As was by now his routine, Parallax argued his case by referring to experimental data, including some which he claimed to have

¹⁷⁶ M. Fulbrook, *Historical Theory*, (Routledge, 2002), p. 59

obtained locally by the use of telescopes on the banks and shores of Plymouth Sound. At the close of his lecture, the newspaper stated that “a very animated discussion ensued” between Parallax and several local gentlemen. Enigmatically, the *Mercury* noted that his teachings were “clever if false, and plausible if not true”.¹⁷⁷

This first coverage gives us an indication of the kind of following the affair of Parallax’s sojourn in the Plymouth and Devonport area would eventually attract – the master flat earth travelling showman playing to a packed house and drawing grudging admiration from the local press, which dubbed his doctrines both “clever” and “plausible” although in such a way as to leave the reader in no doubt which side of the argument they were on. The word “plausible” here is relevant, reminiscent of the concepts of threat we have examined concerning Parallax’s activities – the potential is there for the man to be believed. Although we have seen in our first chapter how ordinary working people engaged with the Great Exhibition particularly avidly when it came to new technology and the contemporary appliance of science, there was no great understanding there. Although this was part and parcel of the mission of the Mechanics’ Institutes movement, and local examples taught scientific and technological matters¹⁷⁸ as well as any would have done across the country at large, when it came to questions of cosmology and the wider scale structure of the observable universe then the subject matter began to exceed the understanding of the average working person. Parallax was plausible because his teachings sounded like authentic science straight from the cutting edge of astronomical discovery to the untrained, unlearned ear.

The first examples of correspondence to the newspapers are not the Damascus road narratives of fresh converts to the cause of a planar earth. One, written by someone who takes the name Refraction, takes exception with Parallax’s assertions for a very good, very practical reason – Refraction, according to his own words, was a seaman. He stated that what the lecturer maintained could not possibly be true because he himself had seen the lie of Parallax’s words with his own eyes. The letter closes with a hint to Refraction’s possible low social status – he was apologetic for having taken up the editor’s time with his letter, however he could not help himself. “Such assertions” as those propounded by Parallax, he noted, “need contradiction”.¹⁷⁹ Such a letter tells us that whereas other newspapers to have featured tales of Parallax down the years have been the preserve of a

¹⁷⁷ *The Western Daily Mercury*, September 27, 1864, p. 3.

¹⁷⁸ Bickford & Hole, ‘Technical Colleges’, pp. 7-11.

¹⁷⁹ *The Western Daily Mercury*, September 29, 1864, p. 6.

mainly middle class readership, this is not the case here. Indeed, in such a bustling hub of British Imperial power, with servicemen constantly stationed in the vicinity, it makes no sense to have a newspaper with such a limited audience. As we shall see, assumptions about Refraction's status may be erroneous.

Another letter which appears in the same edition as the Refraction correspondence is much more noteworthy. It comes from an individual named J. Willis, who wrote from Stonehouse. He was happy to even include his full address. He openly challenged the flat earth theorist, and suggested that Parallax's ideas be tested article by article and tenet by tenet, in public by a committee of seven men, each party to nominate three men each, with all six choosing the seventh. Willis then went on to admit the reason why he wished such matters to be settled in such a meticulous and open manner – the subject was not widely understood and “the uninitiated are easily led astray, especially so when they are under the influence and tuition of a lecturer whose argumentative talents are such as we seldom meet with.”¹⁸⁰ Willis' attitude thus embodies much of the concept of multiple levels of threat from Parallax as we have already discussed – fear of his ability to exploit popular ignorance and win converts. To Willis, the danger was all too real and had to be dealt with quickly, thoroughly and in the open, in front of the very audiences which Parallax hoped to win over with his teachings, even if Willis himself was an educated man who was able to dismiss Parallax's beliefs as “a conglomeration of absurdities”. Willis was not afraid for himself or others like him, he was afraid of Parallax's potential to cause great harm in the minds of the impressionable unlearned public at large.

A newspaper report soon afterwards notes that Willis' suggestion was put to Parallax as part of a “long and warm discussion” at the end of yet another lecture in the Athenaeum and that the lecturer accepted. The article notes that a location with a view towards the Eddystone Lighthouse and the Plymouth Breakwater had been selected, namely Plymouth Hoe. The ground had been chosen for this most extraordinary of battles which, the *Western Daily Mercury* anticipated with characteristic understatement, would “prove very interesting”.¹⁸¹ No date is mentioned. This places the newspaper, its letters page and its readers and correspondents in the middle of a steadily unfolding historical narrative, with the two parties vying for intellectual supremacy.

¹⁸⁰ *The Western Daily Mercury*, September 29, 1864, p. 6.

¹⁸¹ *The Western Daily Mercury*, September 30, 1864, p. 6.

Refraction wrote to the newspaper again in the first few days of October and, in doing so, provides a glimpse into an aspect of the history of education in Plymouth which has, until now, seemingly eluded notice, far less study. In this his second letter, he stated his address as “Richards’ Navigation School” based on Buckwell Street in Plymouth.¹⁸² The official Plymouth School of Navigation, inaugurated in 1862, had no individual surnamed Richard or Richards associated with it in a position of authority during the 1860s and at no time was the institution itself based on Buckwell Street.¹⁸³ Although Kennerley’s studies hint at the existence of four private, unregulated, teachers in the area around 1852 who could train would be officers to the standard required by the Board of Trade for merchant marine officers¹⁸⁴ there is no mention of any in the mid 1860s and certainly none with so grand a title as a “Navigation School”. This may well have been a private enterprise, created to rival (or even profit from a similarity in name to) its more illustrious neighbour. A further letter, a few days later still, is printed which was from an individual named R. R. Richards, who stated his address as the “Navigation and Nautical School” on Buckwell Street.¹⁸⁵ As in the second Refraction letter, little is added to the debate – the letter is of note due to who it is from rather than what it says. It is tempting to read these three letters as a series, with mystery being peeled away like the layers of an onion until we are left with the truth. It seems a reasonable conclusion to draw that Refraction and Richards are one in the same, their letters are concerned almost entirely with technical aspects of atmospheric, navigation and optics, and they lack the rhetoric and – later – personal ire of other correspondence surrounding Parallax’s visitation to the area. Our hitherto unknown private educator of certified merchant marine crewmen seems to have originally become involved in these events almost apologetically and then grown in confidence as the days passed.

Parallax’s supporters in the southwest were slower to announce themselves than his detractors, but were by no means less vocal. A correspondent to the editor of the *Western Daily Mercury* who identified himself only as Fides, Latin for trust, declared himself if not a convert to the beliefs of Parallax, then certainly an ally. Fides, as is obvious from his letter, was a biblical literalist, a staunchly Catholic creationist who applauded Parallax for taking on the “presumptuous inventions and darling dogmas” of the modern scientific era. The lecturer was wholly right to appeal to scripture, and not just any scripture, but that of the Roman Catholic faith rather than “the garbled translation” of

¹⁸² *The Western Daily Mercury*, October 3, 1864, p. 5.

¹⁸³ Kennerley, *Making of*, pp. 103-112.

¹⁸⁴ Kennerley, *Making of*, pp. 105-106.

¹⁸⁵ *The Western Daily Mercury*, October 8, 1864, p. 6.

Protestantism which led men away from the true word of God. Parallax had to be right, Fides argued, as his theories were the only ones in the debate which left room for a Creator of unlimited power. In addition, a major source of contention in the whole debate, that many mariners had attended the lectures and could vouch from their own experience that the world was round, Fides stated that mariners were just as prone to make mistakes as anyone else. He concluded by applauding Parallax for suggesting to the public that they feel some humility toward the divine when they contemplated the infinite mysteries of creation.¹⁸⁶ In the whole of Parallax's career, there is no more extraordinary message from a member of his audience ever committed to print than this letter from Fides. Although cynics might argue that it is too convenient and too unswerving in its praise to be genuine and that there is a chance that Parallax himself might have been its author, that possibility is the least likely of many. Parallax had never fraudulently manufactured support in print before, and the letter has nothing in common with the lecturer's usual tone in writing – Fides focusses almost without exception on theology and the religious connotations of Parallax and his teachings, while Parallax usually concentrates on scientific argument and observational data in print, as well as indulging in scathing attacks on his detractors as we shall see. He usually began referring to scriptural evidence once he had aired his scientific data: perhaps he hoped that a coating of cosmological jargon would make the theology easier to swallow. It does not appear at all likely that Fides and Parallax were, nor could have been, the same person. On the contrary, it seems most likely that this was a genuine message from a genuine supporter of Parallax's ideas.

So, who was this person? What does their letter tell us about the Catholic faith in Plymouth and Devonport in 1864? Legislation bringing about Catholic legal Emancipation in England was still a comparatively recent addition to the statute books by the time Parallax visited the southwest.¹⁸⁷ Social emancipation was slower. A mob of armed militant Catholics 150 souls strong assembled to physically attack one anti-Catholic agitator just a few years after the intellectual Battle of Plymouth Hoe took place, their target only escaping with his life thanks to the intervention of a contingent of Royal Marines.¹⁸⁸ Socially secure, accepted communities do not arm themselves en masse and physically attack their doctrinal enemies, and legal emancipation does not necessarily bring acceptance by the wider community. Based on, admittedly, this one incident of mobilisation against a sectarian enemy, Catholics in Plymouth during the 1860s have a sense of unease around them.

¹⁸⁶ *The Western Daily Mercury*, October 8, 1864, p. 6.

¹⁸⁷ J.A. Cannon, *Parliamentary Reform 1640-1832*, (Cambridge University Press, 1973), pp. 190-197.

¹⁸⁸ D.M. MacRaild, *Culture, Conflict and Migration: The Irish in Victorian Cumbria*, (Liverpool University Press, 1998), p. 178.

Regarding population, it is difficult to determine the overall Catholic population of Plymouth and Devonport as a whole in the year 1864. It therefore becomes necessary to make an estimate of relative populations by means of an educated guess. Data exists for the year 1863 which shows marriages in Devon for all religious denominations. The value for Roman Catholic marriages in the year 1863 for the whole county is 45, against a population of just under 900,000 souls and out of a total number of just under 4800 marriages overall.¹⁸⁹ Using these figures, we can approximate a proportion of the population of any given area in Devon – Plymouth, for instance, or Devonport – which is Roman Catholic at around 1%. Data for births and deaths for the same year does not exist at the level of confessional persuasion however. Fides was therefore a member of a very small, and not hugely significant, religious minority at his time of writing. As we shall see, this minority could provoke a reaction in its fellow citizens which was significantly disproportionate to its size. We have already encountered the religious aspect of the potential threat posed by Parallax, and we shall encounter it again.

There appears to have been some reluctance on Parallax's part when it came to the public challenge he had already accepted. This can certainly be implied from a further letter sent by J. Willis to the *Western Daily Mercury*, a letter in which he urged the flat earth lecturer to engage "manfully" with the challenge before him so that he could "do battle inch by inch" with his opponents in an open and honest manner.¹⁹⁰ This letter is interesting as it perhaps shows us that Parallax is engaging in evasive behaviour having agreed already to take part in the public challenge – we have seen him do this already, more than once, in his progress across the British Isles. Indeed, evasion is such a part of Parallax's approach to public challenges on his theories that we should be surprised indeed if he did not try and bluff his way out of them. Willis concluded his letter with a jibe at this very point, indicating that if Parallax were any kind of teacher of ideas at all, he would be doing his utmost to publicise the challenge – if faith in his own ideas were present, the argument goes, then he would be all too willing to defend them. Willis' approach was designed to appeal to the concept of reputation, or more accurately to Parallax's reputational vanity, although quite what reputation someone who used a pseudonym had to lose is another question altogether.

¹⁸⁹ *Twenty-Sixth Annual Report of the Registrar-General, 1863*, (British Parliamentary Publications, 1865), XIV, (3562), p. 4.

¹⁹⁰ *The Western Daily Mercury*, October 9, 1864, p. 6.

We have already seen how the Fides letter shows that Parallax had potentially tapped into a small, though militant and vocal, core of supporters and would-be converts in the Catholic community of Plymouth and Devonport. A letter addressed as a response to both the ideas of Parallax and Fides was published a few days later which demonstrates that beneath the civilised veneer of respectability, as represented by the activity of corresponding to the editor of a newspaper, ran a vein of sectarian tension between Catholic and Protestant. The correspondent identified himself as E.K.U.L, no other information is provided. To begin with, E.K.U.L summarised a militant Protestant's view of the role of the Jesuit in infiltrating a society or community or even a family in order to bring about its ruin, both material and spiritual. Specifically, he denounced Parallax as a teacher of error, just like a Jesuit, who came to teach the public of Plymouth and Devonport that "black is white... for the benefit of the Church of Rome." E.K.U.L then used the Fides letter as evidence of this, before attacking the Catholic correspondent for being involved in "image worship" contrary to the written word of God Himself.¹⁹¹ This conflict between Catholic biblical literalist and Protestant biblical literalist has an almost Reformation-era quality, showing that in some quarters at least, attitudes had changed little in three centuries.¹⁹² E.K.U.L was hardly expressing a rare opinion in his dislike of Jesuits either; according to *The Spectator*, concerned constituents were in 1868 lobbying their Member of Parliament to use his influence to bring about legislation expelling Jesuits from England¹⁹³ and no lesser figure than the father of Benjamin Disraeli himself had described Jesuits and the Catholic literalist cause they served in print as "scourges of humanity" and "vile and anti-social".¹⁹⁴ As noted previously, legal emancipation of Catholics did not bring social acceptance, and individuals – like E.K.U.L – will invariably draw their own conclusions. This debate was to continue further. Another correspondent, identifying himself by the name Veritas, added to the atmosphere of sectarian and conspiratorial paranoia. He explicitly identified Parallax as a Jesuit and claimed to have "watched this Jesuitical missionary for the past 14 or 15 years".¹⁹⁵ This timescale fits well with the beginnings of Parallax's lecture tours across the country. Could this be a letter from someone who has been following his progress since it began and as such had been a living witness to the growth of Parallax's infamy? At any rate, Veritas claimed to be "intimate" with Parallax's approach – having watched him teach his doctrines, "blind the ignorant" with his scientific arguments, attract followers and "pocket the cash" – and noted an incident in Taunton, without giving any date and there is no record in any available newspaper archive which refers to a visit there, where Parallax turned out the lights when the questions got too taxing and it was clear he had no hope of winning

¹⁹¹ *The Western Daily Mercury*, October 10, 1864, p. 6.

¹⁹² Morris, *Sixteenth Century*, pp. 170-185.

¹⁹³ *The Spectator*, Number 2104, Week Ending October 24, 1868, p. 2.

¹⁹⁴ I. Disraeli, *Despotism; or the Fall of the Jesuits; A Political Romance*, (Murray and Blackwood, 1811), p. x.

¹⁹⁵ *The Western Daily Mercury*, October 12, 1864, p. 6.

any converts. Veritas went on to attack Parallax and Fides in a more science-based manner than E.K.U.L's theology, citing experiments and cosmological constants to put the lie to the flat earth lecturer's argument, although it is clear from the outset that there is a sectarian, religious, element to his attitude also.

The intricacies of inter-confessional religious strife and sectarian tensions in the communities of Plymouth and Devonport during the mid-nineteenth century do not appear to have been explored, in any depth or indeed at all, at any level of study. The microhistorical approach of this thesis has thus cast light on this subject for the first time, although for reasons of relevance and brevity much of interest unfortunately lies outside the scope and remit of this study. It is therefore recommended that further study be undertaken in this area in order to better understand what would without doubt be fascinating subject matter, capable of providing illuminating insights into the past, present and future of a multi-faith multicultural community.

It is not known whether Willis' exhortation to rise to the public challenge, or rather Veritas' accusations of agitation for financial gain, motivated Parallax to write to the *Western Daily Mercury* personally but write he did. In doing so, he broke somewhat from an established pattern and, in doing so, tells us something about the readership of that newspaper or, more accurately, his perception of it. It has been observed previously that Parallax tended to correspond through newspaper letters pages on his own terms and even then, tended to do so in the pages of papers with a generally middle class audience. The fact that, until this point, Parallax has chosen not to do so in Plymouth would seem to indicate that he perceives the general reading audience of the *Western Daily Mercury* as lower in social status than the typical audience he would choose to engage with directly in print – a letter, after all, addressed to the editor of a newspaper is a letter potentially addressed to the newspaper's entire readership base. The break from established pattern and habit here indicates a forced departure, which may partly go some way to explain Parallax's ire in his letter which, even by his standards, is surprising. He would not normally be drawn into a public debate against such "vulgar" opponents, he wrote, but he felt compelled to defend himself and his teachings from such "remarks" and "insinuations" which have issued from other correspondents – remarks, he felt, which were by turns "unjust", "untrue", "scurrilous", "unmanly", "brazen-tongued" and "even brutal". He went on to appeal to his detractors, to ask that they behave as "Christian gentlemen" towards him, who was merely among them to "serve his God, the cause of truth, and his

fellow men.” He closed with an expression of willingness to engage in public debate with those who behaved as “good and generous investigators” and forgive all trespasses against him.¹⁹⁶ The references to God and to Christian forgiveness are striking – up until this point, in the whole known and recorded history of Parallax’s lecture tours, he had never brought religion into the equation openly and publicly in this way. We see here a prime example of Parallax responding to his audience in his typical style, only this time in print instead of in person. He cannot have failed to notice, among the letters from detractors, that there was one from a supporter, Fides, and he has adjusted his tone to appeal to this audience. It is also notable that here, in this letter, he is proposing a public challenge between rival schools of thought – which has already been proposed elsewhere and which he has already accepted and then perhaps tried to avoid taking part in – as if it is his idea and always was in the first place. This almost feels like an attempt to take control, to claim the initiative in the debate and move it in a direction more advantageous to himself. Lastly, his conciliatory tone has been chosen carefully, perhaps, to appeal to any waverers in the newspaper’s audience, to contrast his now reasonable approach with the supposed harshness of his opponents.

On the same day as Parallax’s exhortations and protestations, the *Western Daily Mercury* carried correspondence which broadened the sectarian debate further. An individual calling himself Devonian took it upon himself to write in response to E.K.U.L, taking exception to the latter’s anti-Catholicism and indeed referring him to a certain bookseller’s on Cecil Street in the city, where he might find himself a copy of the Catholic Catechism and see for himself that nothing of any danger was being taught therein. Devonian at no point mentioned Parallax and it is clear that the flat earth debate had given rise by this point to a broader discussion which had quickly exceeded arguments over the true physical nature of the earth, branching off into discussions of biblical literalism and social theology across confessional divides.¹⁹⁷ E.K.U.L was quick to respond, again referring to Catholic worship of images in direct contravention of the second commandment¹⁹⁸, noting that “Romish” correspondents had not denied such worship of images took place, an omission which no doubt inflamed his reformed sentiments substantially. Again, there was no mention of Parallax, who seemed to have been forgotten by those who were now involved in this wider sectarian debate. The flat earth theorist had moved on from the Plymouth Athenaeum in any case, having taken his travelling show of paradigm-shifting arcana to Devonport and its Mechanics’ Institute, where he was to meet his most ferocious and determined opposition yet.

¹⁹⁶ *The Western Daily Mercury*, October 14, 1864, p. 6.

¹⁹⁷ *The Western Daily Mercury*, October 14, 1864, p. 6.

¹⁹⁸ *The Western Daily Mercury*, October 15, 1864, p. 5.

As has been shown in a previous chapter, Devonport Mechanics' Institute had retained a strong working class presence up to 1864 when the organisation encountered Parallax. We can see this in its educational priorities, as Devonport retained a significant technical, scientific and mechanical emphasis long after its neighbours had started to branch out from their original core syllabus into more liberal, traditionally middle class, arts. Devonport also had a – at times national, as we have seen – reputation for excellence in exhibitions and competitions, where subscribers were encouraged to experiment in practical as well as theoretical mechanics.¹⁹⁹ It should come as no surprise, then, that the refutation of Parallax's views which awaited him in Devonport were of a quality which was strongly technical in nature, with a significant degree of theoretical sophistication.

A letter to the *Western Daily Mercury* shows the Battle of Plymouth Hoe beginning in earnest, as a correspondent, signing himself with the Greek letter Theta and giving his address as HM Dockyard Devonport, took Parallax up on the challenge to do intellectual battle in public on Plymouth Hoe and proceeded to take him, and his theories, to task. Parallax's words, said Theta, were "loquacious twaddle" and "milk-and-water moonshine", his "incongruous ravings" and assertions were "monstrous". Theta indicated that he personally challenged Parallax to provide proofs of his theories at a lecture a few days before at Devonport but was provided instead with "parallactic mystifications",²⁰⁰ thus providing Parallax not only with the status of a monster come to teach unsuspecting people folly, but also furnishing him with his very own adjective. Theta then proceeded to attack Parallax on the scientific foundations of his theories, providing observational proofs of the rotundity of the earth – such as telescopes placed miles apart yielding only minute differences in the apparent positions of commonly known stars – and quoting from learned texts written by the hand of such notable authorities as past Astronomers Royal and William Herschel. By his language, his use of inline citations of learned precedent and his ability to construct a highly complex argument and then deliver it in a form understandable to any reader of the newspaper, Theta was obviously a well-educated, well-read individual. Most strikingly of all, he gave his address, as noted previously, as Devonport Dockyard itself. It seems highly unlikely that anyone other than a working class correspondent would give such an address. Given the range of Theta's mathematical and technical knowledge, it seems highly likely that he was a member of the Devonport Mechanics' Institute and therefore obtained – or at the least added to – his knowledge from there.

¹⁹⁹ Kennerley, *Making of*, p. 33.

²⁰⁰ *The Western Daily Mercury*, October 17, 1864, p. 6.

Parallax responded to Theta with an acceptance, naming the date of the Battle of Plymouth Hoe, setting the spectacle up to take place on Friday October 21st. For good measure, he denounced his intellectual opponent as a “boiling dockyard philosopher”.²⁰¹ He perhaps gives us a clue here to Theta’s background. Having presumably met the man when questioned by him at the previous lecture, he certainly knew enough of him, or could recall enough of him, to label him as an infuriated manual worker at toil in the Dockyard, musing about ideas above his station as he went about his business. There is an element of snobbery in Parallax’s jibe, and not for the first time we are afforded a glimpse into Parallax’s view of himself, one that is a distinctly middle class one, despite his origins.

The Battle was becoming a necessary one for those opposed to Parallax and the danger he represented, as subsequent days brought more support from the general newspaper readership. Correspondents identifying themselves as Common Sense and Dido both ventured the view that Parallax was winning the propaganda war, the latter writer commenting that “great credit” was due to Parallax for the way he had conducted himself in the face of scathing criticism and ungentlemanly conduct from other contributors to the debate. The people might be “startled” by Parallax’s ideas, Dido argued, but that was no excuse for not giving him a fair hearing “to which no man of any Liberal sentiments” would surely deny him.²⁰² Another correspondent in the same edition, identifying themselves as Ibid, even went so far as state that “it is just possible, after all, that “Parallax” may be right and we wrong” and that he was “inclined somewhat to “Parallax’s” belief” although with the caveat that “I will not admit such”. Both Dido and Ibid, interestingly, gave their addresses as locations in Cornwall, Penryn and Bodmin respectively. This may be connected to the remoteness of the county, as noted previously, and the demonstrably slow spread of ideas into the area from outside; it is certainly of interest that the farther West one travels, the more likely it seems that heterodox scientific ideas gain credence. It is also notable that, unlike Parallax’s defenders in the area of Plymouth itself, the Cornish supporters did not mention religion, indicating that they were being won over by the science rather than theology. There is also perhaps a dichotomy at work here between rural and urban, industrial and agricultural;²⁰³ this was a period when the overall English economy was shifting from a rural, mainly agricultural one to an increasingly urbanised and

²⁰¹ *The Western Daily Mercury*, October 19, 1864, p. 6.

²⁰² *The Western Daily Mercury*, October 20, 1864, p. 6.

²⁰³ A. Howkins, *The Death of Rural England: A Social History of the Countryside Since 1900*, (Psychology Press, 2003), pp. 7-8.

industrial one, as we have seen. Rural areas, of which Cornwall was mainly one at this time, lacked the libraries, colleges, and even Mechanics' Institutes of the more urban and developed parts of the country. Scientific interest had penetrated the countryside but the sophistication of knowledge necessary to effectively critically refute pseudoscience had yet to follow in its footsteps.

How reliable are these letters as evidence? In keeping with the potential multitude of possibilities presented by postmodernist theory, we are obliged to consider their accuracy and viability as sources of historical knowledge. Firstly, have they been subjected to an editorial process which therefore means that they lose their individual voice and instead become reflections of the will of a newspaper editor or staff member? This does not appear to be the case – a letter from Theta and a letter from Parallax are clearly different, in tone, in voice, in terms of expression and frames of reference. Secondly, have they been abridged? This again does not appear to be the case. The newspaper itself states in an editorial, concerning the debate between E.K.U.L and his detractors, that even though some elements of the arguments involved might seem unsavoury and could potentially even lead to an escalation into the courts, the newspaper is duty bound to print their letters so that each party has a fair hearing.²⁰⁴ The letters can thus be accepted as unedited and unabridged historical artefacts, evidence which reveals the opinions and attitudes of real individuals and their actions within, and reactions to, historical events as well as the attitudes which these individuals had to the debates occurring around them, and to their own place within them.

Those events now unfolded apace. The agreed date came and went, with a postponement being agreed by all parties concerned, as the weather was not suitable for observations of the kind necessary to conduct the required study.²⁰⁵ Battle, it seemed, had been rained off. A crowd of around 50 people went home disappointed, with the promise that the spectacle would take place in but a few days, when Parallax would face a committee from Devonport Mechanics' Institute²⁰⁶ in intellectual and ideological battle. In the meantime, Parallax lectured yet again at Devonport and this time, to his great concern, someone had even physically attacked him with a stick, landing blows of "a very dangerous character" upon his person.²⁰⁷ Although there is no independent corroboration of this attack, it does not seem to be an invention or an exaggeration – Parallax had been in tight spots

²⁰⁴ *The Western Daily Mercury*, October 18, 1864, p. 2.

²⁰⁵ *The Western Daily Mercury*, October 22, 1864, p. 4.

²⁰⁶ Garwood, *Flat Earth*, p. 59.

²⁰⁷ *The Western Daily Mercury*, October 22, 1864, p. 6.

before, and had faced volatile audiences in lectures previously during his progress across the nation and he had never claimed to have been physically attacked on any other occasion. It is highly likely then that this event certainly occurred and some unknown individual took it upon themselves to express their dislike of Parallax's theories in a more direct manner than he might have been comfortable with. The Battle of Plymouth Hoe, in this regard, was a battle indeed.

The morning of Monday October 24th 1864 was "magnificent, but the sun rather powerful".²⁰⁸ In Chapter One, we have seen how the Eddystone Lighthouse and Plymouth Breakwater were the target for the observations, and that the results were a better than expected validation of the conservative Newtonian worldview of a round earth. Parallax, however, seized upon this as proof that the existing theory was incorrect and claimed the day as a victory. We have seen how Richard Proctor, later an astronomer of some renown, noted that there were more than a few observers who went away from the spectacle believing that Parallax's theories had been proven at least in part. Does this fit with the evidence? Will we find proof in the subsequent heated debate of the Battle of Plymouth Hoe of a groundswell of flat earth belief in the area afterwards?

The experimental phase of the Battle of Plymouth Hoe took well over three hours and even got the better of most of the committee who had been appointed to observe and officiate at the event, these gentlemen sloping off to attend to the needs of grumbling stomachs.²⁰⁹ The public exhibition could not have started off worse for Parallax. We have seen that he had a dislike for getting involved in demonstrations out in the open and had perhaps tried to avoid the Battle already, if Theta's correspondence is anything to go by. However, he seized his chance and, with the opportunism that by this point had become one of his trademarks, he attempted to seize victory. His letter to the *Western Daily Mercury* claiming the win was simple – it laid out the places where the visual observations had taken place, the observations themselves, and a comparison between this and what the Newtonian theory predicted. As these did not match, the flat earth theorist contended, the earth was "a plane". He would, he noted, explain the value of these observations to the question of the true nature of the earth during his lecture that night at the Plymouth Mechanics' Institute, his tour now moving on from Devonport.²¹⁰ In the same edition, there is also a letter from the committee which hailed from Devonport Mechanics' Institute. First and foremost among the

²⁰⁸ *The Western Daily Mercury*, October 25, 1864, p. 2.

²⁰⁹ *The Western Daily Mercury*, October 25, 1864, p. 2.

²¹⁰ *The Western Daily Mercury*, October 25, 1864, p. 6.

signatories is Theta himself.²¹¹ This is proof of the point ventured previously, namely that this individual may have been associated with the Mechanics' Institute. Thanks to this piece of correspondence, it now seems likely that Theta was not only a member of this organisation, but was in fact a member of some importance. Given that he is reluctant to reveal his true identity even at this stage, that he has always given his address as the Dockyard and given that close analysis of Parallax's attitude toward him indicates that Theta is a manual worker, it is a strong possibility – borne out by evidence – that Theta is a member of the Mechanics' Institute committee itself and potentially an office bearer there. At a point in the history of the Devonport Mechanics' Institute where the working class membership – that of the eponymous mechanics themselves – is known to be in decline, we have such a man, leading the line in battle against an enemy who is a teacher of dangerous unscientific dogma. The contrast with the origins of the Devonport Mechanics' Institute is striking. In the beginning, a working man suggested the organisation's very formation but was not appointed to the committee. Now, we have a working man representing the organisation itself, being the public voice in print of its conduct in the Battle of Plymouth Hoe. Theta is no foot soldier here or even Lieutenant, he is a General. This movement to the fore, this promotion from the ranks in the Mechanics' Institute, was seen elsewhere and perhaps indicates the fall in working class membership seen at Devonport being mirrored in other parts of the country, as well as a new found appreciation for such membership; a Clitheroe weaver named John O'Neil joined his local Mechanics' Institute in December 1861 and was voted onto its committee the same day.²¹²

The letter from the committee of Devonport Mechanics' Institute naturally claims the complete opposite from what is claimed by Parallax using the same data. It also bears the names of members other than Theta. One is intriguing, for it seems to be the name of someone we have encountered previously. Second on the list is an individual named R. Richards.²¹³ Given that the Richards who corresponded with the newspaper earlier in the debate was a teacher who by his own admission specialised in marine matters, especially navigation, it seems hardly surprising that such a man would be involved in an event like the Battle of Plymouth Hoe. Although the possibility exists that we are talking about an altogether different Mr Richards here, this seems unlikely – the surname, initial and subject matter are too close a match for the correlation not to exist. We therefore see a private provider of, and rival to a recently established institution dedicated to, marine and

²¹¹ *The Western Daily Mercury*, October 25, 1864, p. 6.

²¹² J. Burnett, *Useful Toil, Autobiographies of Working People from the 1820s to the 1920s*, (Penguin Books, 1984), p. 80.

²¹³ *The Western Daily Mercury*, October 25, 1864, p. 6.

navigational tuition taking a lead role not only in the Battle of Plymouth Hoe, but also the Devonport Mechanics' Institute. Given Richards' role as a tutor in maritime matters, the possibility exists that he may have lectured at the Mechanics' Institute in some capacity. This raises the intriguing possibility that, on some level, Devonport Mechanics' Institute was in this way a direct rival to the newly inaugurated Plymouth School of Navigation.

The other committee men are named by Theta's letter as Messrs Osborne, Rickard, Mogg, Evers and Pearce. Mogg's first name is given as George, and he is a co-signatory of Theta's letter, indicating that he stood his ground during the Battle of Plymouth Hoe and did not become a casualty to his appetite. A letter to the *Falmouth Packet* in 2010 from a member of the Mogg family places a former sailor named George Mogg in Devonport as a blacksmith at the Dockyard at the time of Parallax's visit.²¹⁴ If these are one in the same, then we have a member of the committee from the Devonport Mechanics' Institute who while an artisan, certainly made a hard living with his hands. Mr Mogg hardly seems to have been a member of the middle class which so haunts the imagination of Royle²¹⁵, Shapin, Barnes²¹⁶ and their ilk when it comes to the study of Mechanics' Institutes in general, and with a strong representation of working men here among the signatories of the Theta letter, we can conclude that Kennerley is over-simplifying matters, or is using flawed and incomplete sources when he states that Devonport Mechanics' Institute suffered as "there was never any enduring support from the leading figures in the Dockyard or the mechanics working in the yard" and "middle class trends" dictated the pace of the Mechanics' Institute generally.²¹⁷ On the contrary, the case study being examined here in our microhistory is revealing that working men represented the Mechanics' Institute in a very public, very important, engagement with an ideological opponent who posed multiple threats to the existing order.

Theta's was by no means the only letter that day or in the days that followed. A correspondent naming himself Induction, while careful to emphasise his disagreement with Parallax's theories, nevertheless abhorred the venom with which the flat earth theorist's opponents had attacked

²¹⁴ "Was George Mogg really a Captain on the 'Pandora'?", Wednesday 12 May, 2010.

<http://www.falmouthpacket.co.uk/lettersandcomment/readerswrite/8160518.print/> accessed 10 June 2012.

²¹⁵ E. Royle, 'Mechanics' Institutes and the Working Classes, 1840-1860', *The Historical Journal*, Vol. 14, No. 2, (Jun. 1971), pp. 305-321.

²¹⁶ S. Shapin and B. Barnes, 'Science, Nature and Control: Interpreting Mechanics' Institutes', *Social Studies of Science*, Vol. 7, No. 1, (Feb. 1977), pp. 31-74

²¹⁷ Kennerley, *Making of*, p. 33.

him.²¹⁸ From other subsequent correspondents, we learn a little more of the dealings upon Plymouth Hoe. One named only as Twig states that Parallax emphatically claimed to have seen the hull of a distant ship through a telescope even though nearly everyone else in attendance was unable to do so,²¹⁹ the hull having dipped below the visible horizon due to the curvature of the earth. Despite all claims to the contrary and the very evidence before every observer's eyes, Parallax still attempted to claim victory for his theories.

Theta attempted to have the last word in the debate and to claim, once and for all, victory in the Battle of Plymouth Hoe with a letter to the *Western Daily Mercury* which, referring to Parallax's lectures, the attempts to manouever out of the public exhibition of their respective theories, the attempts to claim victory in the face of his theories being shown to be false, and Parallax's continuation of lectures in the area despite his ideas being comprehensively disproved, indicated that the only possible motivation behind the flat earth theorists actions was financial gain. The actual words used are "extort money".²²⁰ Theta worked this accusation into his signature style of data fused with observation and appeals to scientific authority and precedent. If Theta learned his knowledge of optics and observation, geometry and the physical sciences, in the lecture hall, library and reading room of Devonport Mechanics' Institute as seems likely the great depth and high standard of this tuition is obvious even today. Mr Burnet would, surely, have been very proud indeed.

Parallax responded to the accusations of financial motivation in shrill tones. He demanded a full public apology from Theta, via the pages of the *Western Daily Mercury* within three days or else he would "find that those laws" which protected reputations against libel would be employed against him.²²¹ It is notable that again we find Parallax only responding via the newspaper personally when his reputation is under direct attack. It is also notable that the concepts of cultural and reputational threat, explored previously, are now becoming apparent on the opposite side of the argument, in Parallax's attitude. He closed by appealing to the local adherents of the round earth theory to meet him in fair, honest and open debate to settle for once and for all, he argued, the true shape and nature of the earth. Parallax was attempting to reprise the Battle of Plymouth Hoe even though his

²¹⁸ *The Western Daily Mercury*, October 25, 1864, p. 6.

²¹⁹ *The Western Daily Mercury*, October 26, 1864, p. 6.

²²⁰ *The Western Daily Mercury*, October 29, 1864, p. 6.

²²¹ *The Western Daily Mercury*, October 30, 1864, p. 5.

opponents, and seemingly public opinion, had already confirmed that he had failed to win the day. This however, was about to change.

Letters to the newspaper in the aftermath of the public demonstration, up until this point, stand united in their rejection of Parallax and his theories. However, we now see dissenting voices enter the arena. A letter from an individual identified only as J.W., invited an open wager to any “Newtonian” to prove the truth of their theories, given that according to all observation and plain common sense they are clearly wrong. The proceeds of the wager, incidentally, were to be donated to the Devon and Cornwall Hospital.²²² If the accusations against Parallax were at all justified, it seems that not everyone who shared his views was motivated by financial concerns. Another letter appears from a previous correspondent, Induction, which now claimed that the Newtonian interpretation of the experimental data obtained on Plymouth Hoe must have been wrong and may even have been falsified by Parallax’s opponents in order to make sure that their observations would fit their theory. We therefore see a shift here, from a moderate viewpoint which rejected Parallax’s position to one which now accepts it.²²³ Induction may not have accepted the flat earth theory at first sight during the public spectacle on Plymouth Hoe but rather seems to have amended his position upon reflection. This puts the lie to the words of another repeat correspondent, Common Sense, when he states that Parallax – if he was sincere in his desire to sue everyone and anyone who thought him a swindler – would have to take legal action against “nearly every inhabitant of the three towns.”²²⁴ There is a small, though vocal, party in evidence here which has taken Parallax’s teachings to heart and is either questioning the accepted theory of a round earth or has embraced the theory of a flat one. We are reminded of Richard Proctor’s eyewitness statement that “... many of the Plymouth folk went away from the Hoe that morning... with the feeling... ‘some of the most important conclusions of modern astronomy had been seriously invalidated’”²²⁵ Those “Plymouth folk” were now beginning to make their voices heard and their presence in the debate felt. It is also notable that these voices of agreement are making their presence felt without a religious aspect to their contributions – these are the voices of individuals who are basing their acceptance of Parallax’s beliefs on observation, thus constituting a distinct third phase in what might be termed the conversion of elements of the popular mindset to a Parallaxian one. First there is a vocal religious

²²² *The Western Daily Mercury*, October 30, 1864, p. 6.

²²³ *The Western Daily Mercury*, October 31, 1864, p. 6.

²²⁴ *The Western Daily Mercury*, October 31, 1864, p. 6.

²²⁵ Proctor, *Myths and Marvels*, p. 283.

element making its acceptance felt, then there is an element which bases its acceptance on scientific theory and finally one which believes the “truth” as witnessed by its own eyes.

Parallax himself returned to the fray with a further letter, fray being the operative word. Throughout this thesis, the term “Battle of Plymouth Hoe” has been used, both for the specific events which occurred upon Plymouth Hoe itself and also with regard to the wider correspondence and the issues which were raised by, and illuminated by, these missives to the editorial columns of the *Western Daily Mercury*. There were very good reasons why Parallax’s opponents viewed him as a dangerous man whose ideas had to be refuted publicly and thus the choice of title for these events is a fitting one. In this latest letter, Parallax showed that he also viewed this whole situation as a battle, and a religious battle as well as scientific one at that. In this letter, Parallax from the outset claimed for himself the role of “commander of an advancing army” which had succeeded in conquering its enemies. As the marshal of such an army, he claimed the right to “make use” of his defeated opponents in order to advance his cause and forward “his plan of campaign”. He attacked the tone and language of his adversaries, casting them in the role of “camp follower”, thus denying them the respect worthy to a vanquished enemy, in the “onward march of the constantly increasing and ever victorious army of Zetetics.”²²⁶ He was evidently buoyed by the correspondence which had started to appear in the newspaper since the events on Plymouth Hoe. Although Greenwich was a fertile breeding ground for Parallax’s Zetetic philosophy, Plymouth and Devonport appear to be a much stronger potential base for cultivating and promoting his ideas than anywhere else he has visited in his entire lecturing career. In Greenwich, the local newspapers were hostile and even called upon the scientific authorities themselves to deal with the dangerous ideas he was propounding. Although in Plymouth and Devonport there is a clear shared realisation of this danger at Mechanics’ Institute level and even the level of individual private correspondents, no such shared awareness appears to exist at newspaper editorial level. The reason for this seems to be clear – in Greenwich, there is no official challenge to Parallax’s ideas, no head on assault on his philosophy in order to counter its potential threat to society. However in the southwest, there is such an assault, a mobilisation by the Devonport Mechanics’ Institute and it may well be that the news media chose not to overstate the level of threat posed by Parallax because that threat was already being dealt with by the time it became clear that his ideas were starting to attract followers. Parallax, in any case, signed off his letter with a clear exhortation to all good Christians to reject the Newtonian model of a round earth, so that they are not “opposed to the direct teaching of sacred scripture.” It is notable how, as

²²⁶ *The Western Daily Mercury*, November 5, 1864, p. 6.

Parallax began his own correspondence from a mainly – even purely – scientific angle, so he had now shifted to a religious one, almost in direct opposition to the publicly expressed evolution of the position taken by his supporters.

Parallax's continued lecturing in the area was winning converts at Plymouth Mechanics' Institute as well, if one correspondent is to be believed. Naming himself G.B, and clearly having no truck with the flat earth theorist's ideas, he nevertheless stated that "I was surprised to see so many of "Parallax's" audience" questioning the true round earth model of creation after his lectures²²⁷. The threat was real. Parallax was finding a more willing audience for his ideas than he had done anywhere else. He had at his fingertips a seeming "army" of believers which grew with every lecture and would soon pose a mortal threat to the existing order in all of the ways discussed previously. Surely he would now stand at the head of his army and turn the three towns into a Godly Zetetic paradise?

He did no such thing. A few other letters from a handful of correspondents followed, rehashing the same arguments as others, pitching their words into the fray in favour of the existing round earth model and its proponents, but of Parallax there was no more. As he vanished from the stage during awkward question and answer sessions at the end of lectures to hostile audiences, so he now disappeared from the history of Plymouth and Devonport – with only one last footnote. A month after the last of the letters had been published, the *Western Daily Mercury* carried a news article which, by its own admission, was rather a departure from its usual style. It stated that, on the 11th of the previous month, the wife of Parallax had given birth to a daughter in Plymouth.²²⁸ It referred indirectly to previous events in the area and gave a summary of Parallax's beliefs, and was certainly kinder in this statement of the facts than other publications, as a similar article carried by *Punch* shows, mocking the subjects and wondering whether the child should be named "Parallaxia Zetetica".²²⁹ The flat earth theorist had evidently made enough of a name for himself to be featured in the pages of a magazine which enjoyed one of the largest circulations in the whole of nineteenth century popular print. This was a sphere which Parallax's theories soon took a more direct, though short lived, interest in with their own contribution to the reading material on hand to the popular literate audience of the period; *The Zetetic*, a magazine dedicated to the spreading of Parallax's

²²⁷ *The Western Daily Mercury*, November 6, 1864, p. 6.

²²⁸ *The Western Daily Mercury*, December 8, 1864, p. 2.

²²⁹ *Punch*, December 3, 1864, p. 6.

beliefs and philosophy, launched in 1872 with some coverage in the wider press²³⁰ although it folded within a year.²³¹ Parallax himself died at the end of 1884, having continued to lecture for years after he departed from the southwest, and a few newspapers printed obituaries, the *Leeds Mercury* announcing his passing as the death of the “founder of modern zetetic astronomy” and referring to his books and lectures on the subject as “well-known”. Their obituary – as well as referring to him by name rather than his long held pseudonym - even conferred the postnominal letters M.D upon him²³², although there is no proof that Parallax ever genuinely earned any doctoral degree or indeed any degree of any kind. He outlasted his opponents in Devonport by three years, the Mechanics’ Institute there having closed its doors in 1881, its end brought about by rising costs, crippling debt, falling attendances, rivals in the field of education for the working classes and the newly incorporated public libraries.²³³

Devonport Mechanics’ Institute won the Battle of Plymouth Hoe, although Parallax was by no means shamed in his defeat. He won converts, planted the seeds of his ideas in the minds of ordinary people and exposed a simmering sectarian tension in wider society, using the twin weapons of science and religion to further his cause. Relatively speaking, and certainly compared to his wider lecturing career, Plymouth and Devonport were something of a high point for Parallax and he himself claimed victory in the Battle. Although the Newtonian theory won the day – there is far more in the way of evidence for supporters of this theory than Parallax’s – the victory was not absolute. The threat remained. The Battle of Plymouth Hoe was much more than an intellectual duel between a holder of heterodox cosmological belief and his more mainstream, conservative, detractors. It was an extraordinary, public, debate that illustrates the way in which educated – especially self-educated – people came to the defence of common sense and reason as defined by scientific progress, in the face of dangerous ideas which could, and did, light an irrational fire in the hearts and imaginations of those who knew no better. It exposes historical sectarian division, illuminates class rivalries and consciousness, demonstrates the dynamic world of popular education and engagement with science in action and enriches our knowledge and understanding of the past. By tracing the journeys of Devonport Mechanics’ Institute and of Parallax, and by examining the fallout from when their paths crossed, we learn about wider truths than the conflict between two theories. We all emerge victorious from the Battle of Plymouth Hoe.

²³⁰ *Judy*, September 4, 1872, p. 6.

²³¹ R.J. Schadowald, *Worlds of Their Own*, (Xlibris, 2008), pp. 100-101.

²³² *Leeds Mercury*, January 5, 1885, p. 3. Newspapers in Glasgow, Liverpool, York and Bristol announced the death using similarly worded obituaries in subsequent days.

²³³ Lattimore, *History of Libraries*, p. 228.

Conclusions

In conclusion, we have determined that Parallax's beliefs and the public manner in which he propagated them are linked to the concept of threat. By posing a cultural, social, intellectual and religious threat to established contemporary paradigms, Parallax was a clear danger to the existing accepted natural order of things in the Plymouth and Devonport area. He stood for everything which the Devonport Mechanics' Institute, and the working men who had effectively educated themselves using its facilities, stood against – progress, science, rationality. Parallax posed an even greater threat because the language and presentational style he used took these aims and beliefs of his opponents and used their own methodology against them; in presenting his beliefs in the language of science and observational experimentalism, only later using religious and scriptural arguments, Parallax took on the "character" of his detractors. If the Newtonian world view which he sought to cast down was the result of patient observation and rational enquiry, then he attempted to out-Newton the Newtonians by portraying himself as a man of science, a radical, a lone voice in the wilderness.

The study of the Battle of Plymouth Hoe opens our eyes to a vanished world, where the art of writing letters has yet to be lost. Writing in the nineteenth century possessed none of the automated simplicity which exists now. It was a conscious, involved, intimate activity. Every piece of correspondence we have examined was the patient result of someone who cared enough to get involved in a debate picking up a pen and doing so. This was a debate which attracted participants from numerous backgrounds, from the well-read working men of Devonport Mechanics' Institute to private educators to would-be religious agitators to proponents of liberal democracy pleading for a calm hearing for all. We have seen how the correspondence pages of local newspapers can act as real windows to the past, not just for reconstructing the narratives of long forgotten debates but for the resurrection of debates which were both living and relevant and vibrant, conducted in public by a variety of participants while the public absorbed, discussed, reflected. It has been demonstrated that the potential weakness of a microhistory based on analysis of such material, that - as postmodernist theory would have us believe – all such material has been edited and potentially abridged, with the voices of individuals expunged, is not a concern here. The editors have been faithful to the voices of their correspondents. The past speaks to us with its cadences, nuances and inflections intact.

Parallax plied his trade in Mechanics' Institutes and among the working classes for a reason. Less learned audiences were more likely to be converted. Debate with a working class audience held none of the intellectual risk that debating with bona fide experts would entail; in the lecture halls and reading rooms where he plied his trade *Parallax* was the expert, wearing the colours of the scientist convincingly well and with greater success as the years passed, passing from derision across the north of England and in Ireland into the semi-respectability of the teacher of arcane "truths" in Greenwich, Plymouth and Devonport. Naturally there were those more inclined to identify with his theories and likely to accept his beliefs as truth than others. Firstly, it has been demonstrated that the period was one of an increased popular interest in and engagement with science. Parallax tapped into this with his methods and won converts from this class of working person, taking advantage of their newly awakened interest in scientific enquiry. Secondly, Parallax found ready converts among biblical literalists and Christian fundamentalists, especially the militantly Catholic ones. His disdain for the Protestant versions of scripture would have sat well with this class of believer. Thirdly, it appears that Parallax's ideas found ready believers in Cornwall – the further west his ideas travelled, the more readily it seems they were accepted. This acceptance was based on his scientific, experimental, approach rather than the dimension of religious fundamentalism which his theories possessed. It does not appear to be the case that this acceptance is indicative of any mass gullibility in the character of Cornish people of the period in question, rather it is a by-product of the very real, appreciable, remoteness, rural nature and relative lack of industrial development which characterised Cornwall in the mid nineteenth century. More generally, it appears that Parallax's ideas found a more receptive audience in the south of the country rather than the north, his visits to the south east and south west bearing more and better fruit in the space of a few years than decades spent plying his trade further upcountry.

The reception which Parallax's activities received changed over time, eventually his reputation growing to the extent where it often preceded him and led to him becoming a point of reference for other avant garde teachings when they arose in the annals of culture as reflected in the pages of the popular press. His fame (or rather infamy) grew with the years, enough for key events in his lifetime – the entry of a child into his life as well as the ending of his own – to be reported as news of interest to the general reader. Other activities were routinely printed in one publication and then syndicated out across the country, appearing in the pages of local newspapers in widely scattered locations within days of each other, the spread of this news informing us as to the nature of mid nineteenth

century news networks, as well as the speed and scale of the primary distribution and secondary dissemination of information across them. The tracking of his travels and activities therefore contributes to our knowledge and understanding of the cultural and social history of the period. Likewise, the similar exercise undertaken with a focus on the Devonport Mechanics' Institute shows us both national trends and scope for regional atypicalities in the entire Mechanics' Institute movement. Given that there has been no general study of Mechanics' Institutes as a movement from a social and cultural perspective, the microhistorical approach employed here shows what is possible in a local study using such a methodology and would therefore argue in favour of a wider research exercise – there is a clear knowledge gap here which has yet to be addressed and would benefit from further study. The influential role of Devonport Mechanics' Institute in informing the activities of the committee formed to organise the Great Exhibition is proof of this, illustrating a clear social and cultural impact upon the intellectual lives of millions of people which has barely been acknowledged in print before. The existence of correspondence between founder members of Devonport Mechanics' Institute and their counterparts in the capital from a very early point in the history of the former illustrates the interconnected nature of the movement – examples of a social and cultural impulse towards working class self-improvement through education, linked by common cause and the information exchange networks of the time, yet where the centre, though acknowledged as a seat of learning and source of guidance and advice, was not always listened to despite its strenuous appeals to the contrary. In illustration of this, a fitting analogy would seem to be the example of the early Christian church – where Rome, which although not the true founding centre of the movement, came to take on this role at least partly by virtue of its place as the capital city of an empire, from whence good advice was dispatched (and not always at the request of the recipient) and, although respected, could be ignored just as easily as obeyed, for all the originator's protestations of primacy.²³⁴ The fact that Mechanics' Institutes often had a moral mission as well as an educational one – Devonport certainly had such a secondary agenda – only serves to reinforce such an analogy.

The mid nineteenth century was a dynamic period in the history of the exchange of social and cultural knowledge, where informal networks of communication and information transmission conveyed by often technological means sat side by side with the age old presence of oral culture, with the wandering speaker moving from place to place and sharing his ideas with an audience in every town and city. Proponents of accepted scientific, social and religious ideas were respected,

²³⁴ E. Duffy, *Saints and Sinners: A History of the Popes (Third Edition)*, (Yale Nota Bene, 2006), pp. 11-19.

while those who taught otherwise came to be lampooned and even feared. The newly awakened thirst of the labouring classes was slaked only a little by Great Exhibitions and Mechanics' Institutes, and where the desire was not properly sated, some of the less learned would turn to the teachers of such distasteful ideas, while other – better educated – neighbours would staunchly defend the social and scientific status quo and even challenge such heretical teachers to public intellectual duels in the hope of proving their ideas wrong on the open, popular stage, for all to see, so that these dangerous ideas could die. Religion played a part, as the struggles of past history continued to throw their shadow upon contemporary events and attitudes and old formerly legally sanctioned hatreds stubbornly endured in a now emancipated world. Geography played a part also, as the furthest, most isolated reaches of the land lagged behind the latest theories, and the people there were perhaps not as critical of pseudoscience as their more cosmopolitan near neighbours were. Information can only spread quickly and easily if the means exist to do so. The more small scale private individual-level educational enterprises were gradually being replaced by better equipped, better resourced, institutional rivals – rivals which would one day evolve into Universities, as happened in our study with the Plymouth School of Navigation.²³⁵ Public events moved at the same pace as they do in our own day, being reported on by the media just like we see around us today, and with a degree of willing popular participation which we would, perhaps, be hard pressed to find now. Reputations – good as well as bad – could be won and lost in the space of a few hours, victory could be snatched from the jaws of defeat and truth be shown as something malleable, subjective, fluid and perhaps ultimately indefensible as a concept. The story of the Battle of Plymouth Hoe shows us a world that is vibrant, evolving, alive.

²³⁵ Kennerley, *Making of*, pp. 103-112.

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